

# CALIFORNIA AND WESTERN MEDICINE

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Volume XXVI

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Number 1



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# CALIFORNIA AND WESTERN MEDICINE

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## TREATMENT OF OBSTINATE OBESITY

By H. C. SHEPARDSON AND R. E. ALLEN \*

(From the Department of Medicine, University of California Medical School)

DISCUSSION by Russel Van Arsdale Lee, Palo Alto; Henry H. Lissner, Los Angeles; Howard F. West, Los Angeles; Samuel H. Hurwitz, San Francisco; H. Lissner, San Francisco; William J. Kerr, San Francisco.

A REVIEW of the literature on obesity is obviously beyond the confines of this paper. Suffice it to say, the metabolism of obese people has been shown to be different from that of normal people by such careful observations as those of Strouse and his coworkers.<sup>1</sup> This difference is not demonstrable by routine metabolic rate determinations, since these determinations are based on the metabolism either per unit of body weight or per unit of body surface. In either event the excessive amount of adipose tissue reflects itself on one factor without having an equal effect on the oxygen consumption. A second factor which has been emphasized particularly by Strouse is, that the obese tend to conserve the body fat and thus accumulate more adiposity, whereas persons of normal build tend to metabolize the fat. It is also not unlikely, as suggested by Sansum, that the abnormal layers of fat act as "an asbestos covering to a stationary engine" preventing the normal radiation of heat. This may be an important factor in preventing proper elimination. However, it should be stated at the outset, that the fundamental reason or reasons why certain individuals become obese is still a matter of speculation.

The foregoing observations lead to the assumption

that the obese seem to carry on their fundamental exchange of energy more economically than do normal individuals. It therefore follows that their daily caloric requirement is distinctly lower than is usually assumed, due, at least in part, to the excess inactive adipose tissue. But it is apparent that other factors are involved, since many of these obese individuals can be placed for reasonably long periods on the lowest possible caloric intake compatible with health (a diet one-half to two-thirds the basal caloric requirement, computed for their age, weight and height, but containing approximately the normal protein requirement) without producing an excessive or even adequate loss of weight. Weight may be lost to a certain level beyond which further reduction is impossible by dietary measures alone. Actual starvation, it is true, will produce further weight loss, but not without muscular enfeeblement and general constitutional damage. Most of these people lose weight for a time while on such low restricted diets, but this loss of weight, which represents loss of useless adipose tissue, occurs surprisingly slowly, and rarely at a rate proportionate to the marked reduction in caloric intake.

A majority of obese individuals show recognizable evidence of endocrine dysfunction, apparent by the distribution of fat, abnormal distribution of hair, disturbances in the menstrual cycle, underdeveloped genitalia, etc. Furthermore, in many cases of adult obesity it will be found that they were of normal stature and weight prior to adolescence. Hence it is reasonable to assume that their obesity is attributable to the profound changes which take place at that time. Therefore, in certain cases at least, when the limit of reduction by diet is reached, the addition of glandular medication may produce further loss of weight even though the caloric intake be increased to or slightly above the basal requirement. It should be particularly emphasized that the glandular extracts should be added one at a time and the dosages kept well below the point of toxicity. This makes it imperative that the patient be kept under constant supervision and the medication be stopped or reduced at the onset of the slightest evidence of intoxication.

Sometimes weight reduction eventually ceases, either temporarily or permanently, even on the combined treatment, while the patient is still considerably above the ideal weight for his stature. In such cases, however, the body configuration, as evidenced by various circumferential measurements, undergoes further changes and the adiposity becomes redistributed. If treatment is persisted with; further weight reduction may eventually occur.

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Robert Emmet Allen (1433 Fifth Avenue, San Francisco). M.D. University of California, 1922; A.B. University of California, 1918. Graduate study: Intern University of California Hospital, June, 1921-22; assistant resident, University of California Hospital, Department of Medicine, June, 1922-23; resident, Psychiatric Institute, Morristown, N. J. (F. M. Allen, M.D.), July, 1923-March, 1924; assistant in medicine, University of California Hospital, April, 1924-July, 1926. Present hospital connections: Instructor in Medicine, Department Metabolic Diseases, University of California Medical School. Scientific organizations: San Francisco County Medical Society, C. M. A., A. M. A. Present appointments: Instructor in Medicine, University of California Medical School. Practice limited to Medicine since July, 1925.

Lisser,<sup>2</sup> in a paper on the frequency of endogenous endocrine obesity, gave it as his opinion that endocrine obesity was far more common than was generally appreciated; and he believed the prevailing view, that the great majority of obese individuals owed their adiposity to excessive food intake and lack of exercise to be erroneous, and that it failed to recognize the underlying factor responsible for the tendency to gain. He stressed the fact that, in his observations, many corpulent people were surprisingly small eaters, just as many slender persons consumed large quantities of food without gaining weight. At the same time he pointed out the difficulty of submitting adequate scientific proof for his contentions, stating that for this purpose it would be necessary to confine a series of obese persons (who were not ill enough to require such incarceration) for many months in a metabolic ward under strictly controlled conditions where one could be absolutely certain of their exact food intake.

With these facts in mind, we have begun a study of the effects on the extreme obese of reduction in diet to the lowest possible point compatible with health, together with the later addition of endocrine products. We wish this to be considered a preliminary report, but we feel that sufficient data has been obtained to warrant its presentation. Two case records are presented, selected from a fairly large number as representative of the more difficult problems encountered in the treatment of obesity and the results obtained with this type of combined therapy. It may be added that the accuracy of the data presented can be vouched for; also that it constitutes, on a small scale, scientific proof of Lisser's clinical deductions.

#### CASE RECORD

R. M. UCH, No. 125714. A married American woman of 26 years entered the University of California Out-patient Department August 26, 1925, complaining of obesity and partial amenorrhea. Her father, who died of "spinal trouble" at the age of 47, was of normal stature and weight, but her mother, who is living, is considerably overweight. The only other living member of the family is a sister, whose weight is normal. The patient married at the age of 19, and, although libido is normal, has never been pregnant in spite of the fact that no preventive measures were taken. Her health has been very good. She had pertussis as a child, scarlet fever at the age of 12, and possibly diphtheria during the same year. Her birth weight is not known. She states, however, that she has been told that as an infant she was somewhat undernourished. For as long as she can remember she has been markedly overweight. Her greatest weight of 300 pounds was reached eight months prior to entry. Her height is 5 feet 7½ inches. Her weight on August 26 was 276.1 pounds (125.5 kg.) (with clothes), and she had been taking 4 grains of Armour's thyroid extract daily for some time previous to that date, on advice of her family physician. Aside from some palpitation and slight dyspnea on exertion, she had no symptoms other than the obesity and menstrual derangement. She perspired normally, had no preference for either cold or warm weather, and reacted normally to changes in temperature. Her menstrual history is quite interesting. Catamenia began at the age of 13½ years, has always been irregular, the intermenstrual period varying from five months to twenty-eight days, the average being from two to three months. Each period extended over approximately three days and was normal in amount. Her last period occurred five days prior to her initial visit.

Physical examination was essentially negative except for slight hypertrichosis of her face, extraordinary adi-

posity which was largely of girdle distribution, and pulse rate of 100. Blood Wassermann, routine urine examination and blood count were negative. Basal metabolic rate done August 29 was 18.3 per cent plus, which probably reflects the effect of the thyroid extract she had previously taken. Her circumferential measurements are shown in Figure 1.

FIGURE 1  
Circumferential measurements were as follows:

	Sept. 1 1925	Dec. 14 1925	Feb. 5 1926	Aug. 24 1926
Weight .....	276.1 lbs.	240 lbs.	224 lbs.	196½ lbs.
Neck .....	15½ in.	14½ in.	14 in.	13½ in.
Chest .....	47 in.	41½ in.	40 in.	37½ in.
Bust .....	52½ in.	48 in.	46½ in.	43 in.
Waist .....	47½ in.	43½ in.	40½ in.	35½ in.
Abdomen .....	59 in.	53 in.	49 in.	43 in.
Hips .....	50 in.	46½ in.	45½ in.	41½ in.
Thigh .....	28 in.	27½ in.	25½ in.	24 in.
Calf .....	16 in.	14½ in.	14 in.	13½ in.
Arm .....	16 in.	14 in.	13½ in.	12 in.

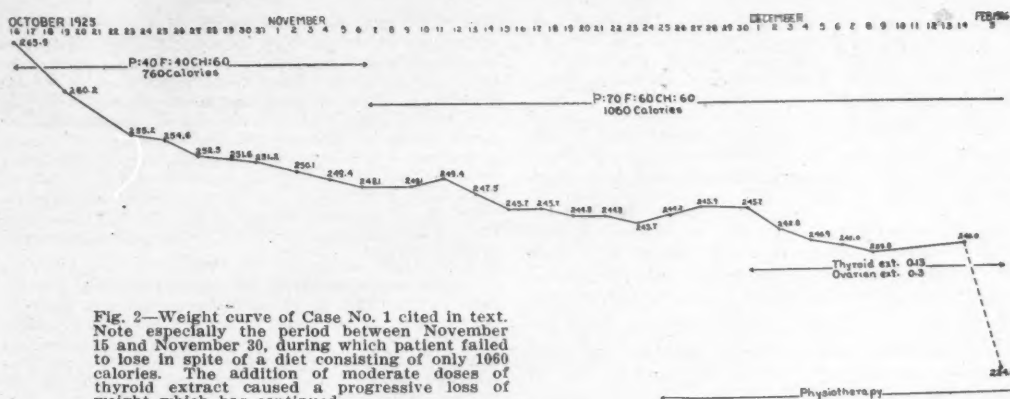
She entered the University Hospital October 16. On that date her weight was 266 pounds (120.9 kg.) without clothes. She was placed on a diet of P:40 F:40 CH:60 (760 calories). The accompanying chart shows the weight changes which occurred. It will be noted that from October 16 to November 6 her weight loss was 17.8 pounds (8.1 kg.). Because of the rapidity of weight loss and possible injurious effects, her diet was raised to P:70, F:60 CH:60 (1060 calories). She was feeling quite well and there was no loss of strength. She complained of hunger for one-half to one hour before each meal. Immediately following this increase she showed a slight gain in weight (1¼ pounds) in four days and then lost slowly until November 15, when she weighed 245¾ pounds (111.7 kg.). From November 15 to November 30 there was no change in weight. The diet remained absolutely unchanged, and during the last five days of this period she exercised twice daily for twenty minutes under the supervision of the physiotherapist. Physiotherapy was instituted at this time, primarily to determine the condition of her musculature and was continued to maintain good muscle tone. She had, accordingly, lost twenty pounds in four weeks on a diet of 760 to 1060 calories, and for two weeks thereafter failed to lose any more, despite the low caloric intake.

On December 1, thyroid extract (Armour) gr. 1 (0.065 gm.) twice daily was started. It should be stated at this point that on October 27 her basal metabolic rate was 1.5 per cent plus. Following the institution of thyroid substance, a further loss in weight ensued. This amounted to 5.7 pounds in two weeks, and on December 14 she weighed 240 pounds (109 kg.). Because no menstruation had occurred since September 9, ovarian extract gr. 5 (0.3 gm.) three times daily was started December 2. She was discharged from the hospital December 8, with instructions to exactly follow the last diet she had received in the hospital and to continue with the thyroid and ovarian extracts.

We saw her next on December 14, at which time she weighed 240 pounds, and her circumferential measurements on that date were as shown in the chart. On February 5, 1926, two months later, her weight was 224 pounds (101.7 kg.). She had, therefore, lost 22 pounds more on thyroid extract, her caloric intake remaining the same as it was during the period when no thyroid was given. She has been exceedingly careful with her diet and medication, and there was not the slightest evidence of thyroid intoxication. Because of the fact that she anticipated a trip which would extend over a considerable period of time, she was advised to continue her diet, but to reduce the thyroid extract dosage to gr. 1 (0.065 gm.) daily for three days each week and gr. 2 (0.13 gm.) daily for the remaining four days. She continues to take ovarian extract gr. 5 (0.3 gm.) three times daily, and her menstrual cycle is now normal.

To recapitulate, this patient lost twenty pounds in four weeks on an accurately controlled low caloric intake, then ceased losing, although the diet remained the same; she lost twenty pounds more when placed on thyroid extract, the caloric intake being unchanged.

A. M. UCH, No. 53496. A married American woman, age 37 years. She entered the University of California



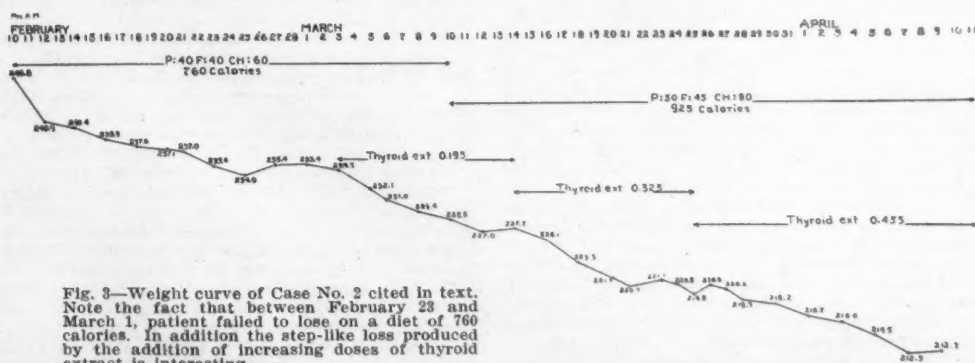
Hospital February 10 for treatment for obesity. Her mother and maternal grandmother were of average height but overweight, although neither was ever known to have weighed more than 180 pounds. Four sisters and five brothers were of normal stature and weight. She has lived in most of the Western states. She had measles, mumps, pertussis, varicella, and variola before 12 years of age, several severe attacks of tonsillitis during childhood, "summer diarrhea" at the ages of 8 and 9, influenza with pneumonia and pleurisy at the age of 28, at which time she was in bed six months, and erysipelas at the age of 35. She was married at the age of 16 and had three pregnancies before the age of 21. The first two children died shortly after birth on account of "defective hearts," and the third pregnancy terminated spontaneously at the sixth month. She has not been pregnant during the past sixteen years, although no preventive measures have been taken. Menstruation began at the age of 12 and was quite irregular until marriage, after which the periods became regular (every twenty-eight days), but continued to be quite scanty and accompanied by considerable dysmenorrhea. The amount of flow gradually diminished until admission, when she practically had an amenorrhea. As far back as she can remember she has been obese. At the age of 16 she weighed 135 pounds; at 28 she weighed 180 pounds; at 33, 190 pounds; and at 36, 200 pounds. During the year prior to her coming to the hospital, her weight increased 46 pounds, and on admission she weighed 246.8 pounds (112.2 kg.).

Physical examination was essentially negative except for marked generalized obesity and slight tenderness to deep palpation over the entire abdomen. Routine blood count, blood Wassermann, and urine examination were negative. Basal metabolic rate on February 12 was 5 per cent minus. X-ray films of the skull were negative. She was placed on a diet of P:40 F:40 CH:60 (760 calories). During the first week she lost weight fairly rapidly. By February 23 (two weeks) her weight had reached 235.4 pounds (107 kg.) (loss of 11½ pounds), but remained at

or slightly above this figure until March 1. Because of failure to lose any further on 760 calories, she was given thyroid extract (Armour) gr. 3 (0.192 gm.) daily in three doses. In the next two weeks she lost 8½ pounds (March 11 her weight was 227 pounds—103.2 kg.). On account of beginning loss of appetite and mild abdominal cramps, her diet was increased to P:50 F:45 CH:80 (925 calories). Since there had been no evidence of thyroid toxicity other than the loss in weight, the dosage of the extract was increased to gr. 5 (0.3 gm.) daily on March 14, at which time her weight was 227.7 pounds (103.5 kg.). On March 26, her weight having dropped to 220.8 pounds (100.4 kg.) and remaining stationary, a further increase of the thyroid extract to gr. 7 (0.45 gm.) was made. By April 6 minor objective toxic signs were apparent, although she felt perfectly well. Her basal metabolic rate was obtained and was found to be 11.6 per cent above the theoretical normal. Her weight was 212.5 pounds (96.6 kg.). By April 15, without change of diet or medication, her weight had dropped to 209 pounds (95 kg.) and she felt quite well. The slight nervousness exhibited April 6 had apparently been due to the onset of menstruation and was absent April 9.

To summarize: From February 10 until February 25, this patient lost 12.8 pounds on a 760 caloric diet. During the following week her weight remained stationary. She was then placed on thyroid extract and, in spite of the fact that her diet was increased to 925 calories, she has lost twenty pounds more. Her weight loss is continuing.

**Discussion**—These two cases are given in detail because of the fact that, due to our present inability to adequately classify the various types of obesity, collective statistical data covering the loss of weight in the obese is of little value. We have considered it better for the present to individualize our therapy rather than apply routine methods to all patients,





for it is realized that the types vary widely and their treatment should vary accordingly.

The case studies given show the following interesting points.

1. The basal metabolism, as determined by the ordinary methods, was within normal limits, yet it is apparent that their actual metabolism was decidedly abnormal.

2. In each instance the diet was reduced to a level considerably below the basal requirement without impairment of health, and a definite loss of weight resulted beyond which further reduction was unobtainable by dietary restriction alone.

3. The subsequent addition of the indicated glandular medication resulted in further loss of weight and permitted an increase in the diet to a point where moderate exercise produced no untoward effect, exercise which might have been harmful with the previous extremely low caloric intake.

4. Thyroid extract was used as a general stimulant to metabolism rather than to supplement a thyroid deficiency which neither of these cases showed.

We do not advocate this form of treatment in all cases of obesity. It was employed in the study of the more difficult cases when they could be kept under close observation. The opportunity is taken of warning the profession generally against instituting any form of reduction régime which produces too rapid loss of weight. The consequences may be disastrous. This applies to diet cures as well as gland cures.

Further studies of these as well as other cases are being carried on in an effort to gradually reduce them to normal stature. After the return to normal weight or to a point slightly below the calculated normal there may occur a rearrangement in the weight-control mechanism which will result in a maintenance of normal stature without undue limitation in diet.

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#### DISCUSSION

RUSSEL VAN ARSDALE LEE, M. D. (300 Hamilton Avenue, Palo Alto, California)—Patients such as the ones reported by Doctors Shepardson and Allen are not infrequently encountered. They have normal basal metabolic rates and when placed on a diet below their estimated requirement do not lose. It is, of course, obvious that unless the laws of the conservation of mass and energy are erroneous no patient in fluid equilibrium can consume an amount of food below his requirements and not lose weight. If the patient be kept continuously on such a diet, and if water or some other substance is not retained within the tissue, he must lose weight. I would welcome some explanation from the authors or at least a theory as to why this loss does not occur.

In considering the matter of obesity it may be that

individuals who show pathological obesity may be accumulating a fat which varies in chemical composition from the fat of normal individuals. There is some experimental evidence that this is so. Generations of rats bred for hereditary obesity develop fat which is relatively unsaturated as compared with the fat of normal rats; the lower content of hydrogen in this fat would, of course, mean that less energy was required for depositing this fat, also that less energy is consumed when it is burned. Some such difference in the fat composition may explain the apparent paradox (because it must be only apparent) that the obese patient, eating less than he consumes, maintains his weight.

HENRY H. LISSNER, M. D. (Brockman Building, Los Angeles)—The paper by Doctors Shepardson and Allen on the treatment of obstinate obesity is a particularly timely one. Much has been written about diet and weight reduction in both medical and the lay press, but this paper presents the most logical and scientific discussion of the subject that has been approved in some time.

Two points stand out, and should be emphasized: (1) the individualization of treatment, either from the dietetic or endocrine standpoint; (2) the basal metabolic studies as determined by ordinary methods were within normal limits in many cases, yet the actual metabolism was decidedly abnormal.

Under the first heading the warning against the promiscuous use of thyroid extract for the reduction of weight is to me the most important subject in the paper, and this knowledge should be broadcast and made general so that physicians and laymen may understand the danger of promiscuous thyroid therapy unless the same is definitely indicated. It will also prevent the rather careless and all too frequent prescribing of combinations of glandular extracts and will keep therapeutic indication of gland therapy on a plane with other modern scientific developments of medicine.

In my study of obesity I have found that the estimation of metabolism has been of little or no value as an indication for the type of glandular therapy to be used, except in evident thyroid dysfunction.

As has been pointed out by Shepardson and Allen, many obese individuals do not show any abnormality of basal metabolism. Diet has but little influence on their weight. Their fat distribution is suggestive of pituitary insufficiency and in these pituitary substance given by mouth, if augmented by hypodermic injections of pituitrin until weight reduction is started, the necessity of giving larger doses of thyroid extract is obviated.

I have found it unnecessary to give thyroid extract in as large doses as has been used by the essayists, and that following the method suggested above there are no untoward effects or thyroid symptoms produced.

Gain in weight of adolescents is also controlled by administration of pituitary substance and very small doses of thyroid extract.

To sum up, the most important points brought out by the essayists are the individualization in the management of all patients with obesity and the careful administration of thyroid extract.

HOWARD F. WEST, M. D. (1032 West Eighteenth Street, Los Angeles)—Insurance companies consider that individuals of middle life who are fifty pounds overweight have a 56 per cent higher death rate than those of normal or slightly underweight. In spite of such warnings, our knowledge of the fundamental faults in obesity is much too meager. It is to be feared that nonmedical people—perhaps chiefly for esthetic reasons—are more interested in this problem at the present time than are physicians. There is a real danger that many individuals are doing themselves actual harm by trying "reduction cures."

Further studies of the type begun by Doctors Shepardson and Allen should be encouraged. As mentioned in their article, the work of Strouse and associates, among others, has indicated some of the variations in metabolic response to different types of food substances in these individuals suggesting a tendency to economize especially on fat. These studies have been largely in the resting state, and an interesting investigation would be to determine the "cost of exercise" in this same group. Perhaps here, too, variations from the normal will be found and

further light shed on the practical aspects of dietetic and endocrine management.

The question raised by Doctor Lee is quite pertinent. Chemical studies on the composition of the fat deposits in the obese resistant to dietary restrictions may be expected to show variations from the usual. Perhaps it is at this point that glandular products have an effect in addition to stimulating the total metabolism.

This work is of great value, and it is to be hoped that the authors will extend their studies and continue to add much needed practical information for these truly unfortunate individuals.

In the meantime let us not forget that there are some people who are too fat because they eat too much, and that the indiscriminate use of thyroid preparations may lead to trouble.

SAMUEL H. HURWITZ, M. D. (490 Post Street, San Francisco)—Concerning obesity, DuBois has made the very apt comment that the amount of scientific information which we have regarding it is in marked contrast to the large amount of public opinion on this subject. This popular interest is due to the broadcasting by life insurance companies and life extension institutes of the important fact that overweight is very prevalent in this country, and that obesity predisposes to the development of certain of the degenerative diseases, such as diabetes and cardiovascular disease.

Every contribution which adds to our knowledge of the pathogenesis of obesity and formulates some plan of rational treatment is therefore of great value. The paper by Shepardson and Allen does this for a not uncommon type of obesity observed in women. These patients at times show a considerable grade of arterial hypertension which they tolerate well. In them a reduction of weight by conservative methods will usually be followed by an appreciable drop in the systolic blood pressure and a lessening of the mechanical load carried by the cardiovascular system.

In my experience the best results in this type of obesity are obtained by conservative reduction methods. Much to be deplored is the too reckless curtailment of the protein of the diet, resulting in excessive nitrogen loss, undernutrition, secondary anemia, and diminished vitality. The objective in treatment should be a lowering of body weight without a diminution in vitality and efficiency.

H. LISSER, M. D. (Fitzhugh Building, San Francisco)—Many people eat too much and exercise too little and become "stout" (10 to 25 pounds overweight), but unless they are positive gluttons they rarely become "obese" (30 to 150 pounds overweight). The discussant is convinced that the majority of very fat persons are comparatively small eaters; many of their companions at table eat the same amounts and preserve normal proportions, indeed one or the other of them probably belongs to the "constitutionally slender" type and eats twice as much but remains thin. Obviously caloric intake does not suffice as an explanation for this seeming paradox. The medical profession will take a big step forward in understanding undernutrition and overnutrition when it finally shakes itself loose from the sacred dictum which says: A person will eat off his own body if his food intake is below a certain caloric value, and conversely will gain if his food intake is above a certain value; this law may apply to the great mass of average normal folk, but it does not hold true for the pathologically obese or slender individual.

Mason of McGill University has recently shed some light on this enigma. He found in a scrupulously accurate investigation that pathologically obese and slender persons display an abnormal specific dynamic reaction to foods. That is to say, the abnormally fat individual does not produce anything like the amount of heat from a given amount of protein that a normal person does. He was able to maintain several such patients on the astoundingly low ration of 250 calories per day over a period of many months, without acidosis, and in excellent health and vitality; and in line with Doctor Lee's supposition he found that a diuretic was periodically necessary because the obese retain fluid. Most interesting was the finding that after a loss of 50 to 100 pounds such patients,

when retested, still display the same metabolic abnormality which they did prior to reduction.

Conversely, Mason observed an emaciated young woman who, strangely enough, lost weight on a high-fat diet and gained on a low-fat diet. Why? Because her reaction to a meal of fat was an extraordinary production of heat, two to three times normal. She had a metabolic idiosyncrasy to fat; another patient showed an abnormal response to carbohydrates, another to protein. These interesting observations begin to explain why some persons will not lose on a 1000 to 1500 caloric diet and why others will not gain on a 4000 to 5000 caloric diet.

Even so, and granting the probability that future investigations will confirm Mason's contentions, the question must still be answered, what fundamental derangements underlie these metabolic anomalies? Why does one person produce less heat in response to a protein meal and another react with too much heat to the same meal? We do not know. But it seems reasonable to suspect from somewhat analogous happenings in the endocrine disease, diabetes mellitus, that disturbances of internal secretion are in some way concerned. The exact relationships remain to be solved. Meanwhile much can be accomplished in the practical treatment of obesity by a judicious combination of dietary restriction and glandular stimulation.

Finally, just a word about thyroid extract. Of course, the laity should not use this drug except under a physician's direction and it is all very well to warn the public of its dangers, but physicians themselves are becoming unnecessarily panicky about its use. Any physician who cannot recognize the abundant signs of thyroid over-dosage and check his treatment with estimations of the basal metabolic rate, had better not prescribe thyroid extract. No potent remedy is harmless if unwisely administered, whether it be thyroid extract, digitalis, insulin, salvarsan, parathormone, diphtheria antitoxin, or surgery; only impotent preparations can be prescribed recklessly and indiscriminately.

Doctors Shepardson and Allen are to be commended for driving another wedge into traditional conceptions which, let us hope, will soon become obsolete. Further work of this type is much to be desired.

WILLIAM J. KERR, M. D. (University of California Hospital, San Francisco)—The experience of the authors with selective cases of obesity showing that certain individuals will not lose a great amount of weight, even though on a very low caloric diet, is of great interest. An explanation for this peculiarity is not easily found. If one studies carefully the charts of such patients, it is suggested that if the restrictions are continued long enough, there is eventually a balance and there may be sufficient water lost to cause a greater loss of weight after a few days. I am firmly convinced that there are differences in individuals and that certain ones will not lose weight even on a greatly restricted diet, while others who are thin will not gain weight, irrespective of the amount of food eaten. This, as far as I know, is not definitely explained by the basal metabolism rate. Whether the suggestion made by Doctor Lee in discussion of a difference in composition of the fat has a bearing here I am unable to say, although it is possible that such is the case.

Any discussion of the treatment of obesity eventually leads us to some comment of the rôle of the endocrine glands in producing obesity and the use of such gland products in its treatment. I have for many years used thyroid extract and pituitary extract as adjuncts in the treatment of obstinate obesity. I have found these to be of great value. Thyroid extract, however, is probably of greater value than pituitary extract depending, of course, upon the type of obesity. I am quite in agreement with Doctor Lissner, who encourages the use of thyroid extract under careful medical supervision. We have in thyroid extract a potent drug, and the use of this drug—just as in the case of other potent drugs—must depend upon indications and the physician must understand the condition of the patient, the toxic symptoms produced by an overdose, and must see the patient often enough to follow the results of treatment. I believe that if such precautions are taken and the patient is sufficiently warned of the dangers of increasing the treatment without direction, we need have little to fear from this drug.

I have watched with a great deal of interest the studies that the authors have made and believe that such investigations will soon lead to a clarification of the problem of obesity. I feel that there are metabolic disturbances in the very obese and the very thin, representing the extremes, which are not expressed in the oxygen carbon-dioxide exchange.

DOCTOR SHEPARDSON (closing)—The writers appreciate the excellent character of the discussion, and are gratified to notice that the opinions expressed harmonize, for the most part, with their own conceptions.

A more recent report of the two cases cited in the paper may be of interest.

Case No. 1 (R. M., U. C. H., No. 125714)—On September 24, 1926, this patient weighed 194.7 pounds, which is 29.3 pounds less than the previous weight reported on February 5, 1926. She has therefore experienced a total reduction of 81.3 pounds in 11.5 months. She is still on a diet consisting of P:70, F:60, CHO:50 (1020 calories) and is receiving thyroid extract (Armour) gr. ½ daily and whole gland pituitary extract (Armour) gr. 9 daily. She is in excellent health.

Case No. 2 (A. M., U. C. H., No. 53496)—On September 30, 1926, this patient weighed 202.4 pounds, which is 6.6 pounds less than the last weight reported in April, 1926. However, she has not co-operated very well, and has therefore not been under observation since June 25, 1926, at which time she weighed 195.8 pounds. Because of her failure to remain under observation, she has not adhered to the prescribed diet and in addition has had no medication whatever. We have been assured that from now on she will report at regular intervals so that a subsequent report may be rendered. This patient has also remained in excellent health.

"Elfin Fat-Reducing Gum Drops" and "Slends Fat-Reducing Gum"—The quacks who prey on women who are overweight or who have convinced themselves that they are overweight have done a thriving business in the past few years. Fortunes have been made in the sale of nostrums, most of which are utterly worthless, and a few of which are distinctly dangerous, sold for their alleged antifat properties. Elfin Fat-Reducing Gum Drops, described as "The Chew and Grow Thin Treatment," are marketed by Pep-Giving Products Co. Inc., New York City. With the trade package come certain diet directions which alone, if followed, might result in a loss of weight. The A. M. A. Chemical Laboratory analyzed the preparation and reported that it was a "gum-drop" coated with varying amounts of a mixture containing essentially sucrose and phenolphthalein flavored with peppermint. The average amount of phenolphthalein was 1.4 grains to each "gum-drop." "Slends Fat-Reducing Chewing Gum" is put on the market either by Slends, Inc., or by Heath Products Inc., New York City. It is claimed that the preparation contains absolutely no thyroid or any other harmful ingredient and that it can safely be given to children. At the same time it is admitted that the drug that is used in the product is extract of poke-root, while the trade package admits the presence of phenolphthalein. From its analysis the A. M. A. Chemical Laboratory concluded that each piece of Slends is a piece of chewing gum (chicle) coated with varying amounts of a mixture containing essentially sucrose and phenolphthalein, flavored and containing a small amount of vegetable extractives. The average amount of phenolphthalein was 1 grain to each piece. From the analysis it appears that if extract of phytolacca is present the amount is insignificant. While phytolacca has long been used in fake obesity cures, in almost every instance it is found to be present in such small quantities as to produce no physiologic effect whatever.—Journal A. M. A.

We should eat cautiously of such food as is solid and most nourishing (for it is hard always to refuse it), such as flesh, cheese, dried figs, and boiled eggs; but more freely of those things which are thin and light, such as moist herbs, fowl, and fish if it be not too fat; for he that eats such things as these may gratify his appetite, and yet not oppress his body.—Plutarch.

## DISLOCATIONS OF THE OUTER END OF THE CLAVICLE

By JOHN DUNLOP\*

DISCUSSION by John C. Wilson, Los Angeles; James T. Watkins, San Francisco.

THE teachings of the pathology found in dislocations of the outer end of the clavicle, and the suggested remedy in the usual textbooks on the subject, are so at variance that I have thought it timely to discuss some of the more recent operations advised, as well as one which I have worked out; all of which take into account the repair or substitution of the injured tissues involved in the lesions.

In order to understand the mechanism of the dislocation, it is necessary to have a clear conception of the anatomy and function of this most important structure.

The clavicle acts as a yardarm to the entire upper extremity, holding it in the proper relation to the trunk so that it can do its work with the least possible resistance. The shoulder mechanism is held in relation solely by the acromioclavicular joint, less than a centimeter in diameter. The facings of these joint surfaces are slightly up and backward and outward. The structures are held in their proper relations by a very ingenious system of ligaments. First, the joint itself is surrounded by a heavy ligamentous capsule, which ordinarily holds its surfaces in apposition, but this joint gets its real support from the manner in which the clavicle is fixed to the coracoid process. There are two very definite ligamentous bands which tie down the outer third of the clavicle to this coracoid process; the so-called trapezoid ligament, and the coracoclavicular ligament, which extends from the outer inch or so, down to the coracoid process. There is a further ligament, the coracoacromic ligament, which has much to do with the stability of the scapula.

Dislocation of the acromioclavicular joint is nearly always the result of some force which has depressed the point of the shoulder, the acromion process; or a sudden rotation of the scapula, which brings force to bear on these supporting ligaments, thereby producing a tearing of the ligaments. It can thus be seen that any attempt to repair the deformity must take into consideration this destructive process and a repair of the same. The clavicle cannot rise to a very great height unless there is a giving way of the trapezoid and coracoclavicular ligaments, and when this does occur there is a definite tearing of these tissues. In case of a dislocation there is not necessarily a rupture of these ligaments, but a dislocation may occur by a rupture of the capsular ligament about the acromioclavicular joint.

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The nature of the deformity following dislocation varies with the type of luxation. In true dislocation well-marked deformity is evident. The tip of the shoulder is displaced downward, forward, and inward, and the displaced bones may be distinctly felt in their changed positions.

In the literature at my command the pathological mechanism of this dislocation, where given at all, is unanimous, as I have before stated, but there is certainly no unanimity of opinion as to a procedure to overcome it. Some textbooks covering this subject refer to the suture of the ends of the bones; that is, a suture of the clavicle to the acromion; and at times it is suggested to arthrodose the joint. Nowhere have I been able to find mention of a repair or substitution of the injured ligaments controlling the position of the clavicle. Hitherto the results of treatment have been uncertain and seldom completely successful as to restoration either of form or of function. The carrying of heavy burdens is difficult, proving a severe handicap to such laborers as masons, carpenters, porters, etc. Abduction above a horizontal is apt to be prevented permanently.

However, James T. Watkins of San Francisco (*Jour. Bone and Joint Surg.*, Oct., 1925), first gives a proper description of the mechanism of the dislocation, and suggests an operation using fishing line to tie the clavicle down to the coracoid. Watkins also refers to a paper by F. M. Cadenat (*Intern. Clinics*, Vol. I, 27th Series), who proposed the substitution of the inner fasciculus of the coracoacromial ligament for the torn coracoclavicular ligament.

Since becoming especially interested in this subject I have talked with John C. Wilson, Los Angeles, and find that he has done practically the same operation as that proposed by Watkins, only instead of the fishing line he used fascia, which he formed into a heavy suture.

At the time of my first operation I was unaware of any of these methods of procedure. In fact, I rather think that my operation was earlier than either of those mentioned.

It seemed to me that the mere suture of the clavicle to the acromion was of little value, so I attempted what I called an anatomical repair, consisting of a suture of the torn ligaments. It was difficult to recognize individual tissues after the bony structures were identified, so I quilted and re-enforced this coracoclavicular space with whatever tissue I could bring to my assistance, and the tissue over the clavicularacromial joint was also tightened up. The result was excellent, giving a very useful arm to a laborer. This operation was repeated once, and both operations were done at the Los Angeles General Hospital.

While preparing this paper I have had another case where a slightly different operation was performed, differing only, however, in the use of the fascia of the anterior portions of the deltoid for the re-enforcing tissue. I was unable in this last case to identify the torn ligamentous tissue, although the injury was of but one month's standing. This fascia was released in the form of a pedicle, with the pedicle forward to the inner side and tightly sewed to the split edge of the periosteum of the clavicle

and acromion and to the heavy tissues over the coracoid process. There were no special difficulties encountered in the procedure and apparently the dislocation has been overcome, although it is too early as yet to consider this patient cured.

This short paper is given, not with the idea of presenting new operation, but in an effort to bring this subject, apparently so little understood hitherto, down to the more recent contributions which have added much to a real understanding; and in the hope that a more adequate operation than suture of the clavicle to the acromion will henceforth be found feasible.

#### DISCUSSION

JOHN C. WILSON, M.D. (1136 West Sixth Street, Los Angeles)—Dislocation of the acromioclavicular joint, if not reduced, is a disabling condition. As Dunlop has stated, fixation with an absorbable ligature and arthrodosis of the acromioclavicular joint has been common practice with an end result of questionable value. Since the cause is a rupture of the ligamentous structures binding the clavicle to the coracoid process of the scapula, the cure must lie in their repair or reconstruction.

I have not attempted the repair of the ligaments as recommended by Dunlop, but have reconstructed the coracoclavicular ligament by passing a free fascia lata transplant through the distal end of the clavicle and the coracoid process, pulling it taught and securing it in position with sutures. A stable joint has been the result in four cases. The period of convalescence is comparatively short, averaging about ten to twelve weeks.

We are indebted to Doctor Dunlop for the presentation of this interesting and practical solution of a troublesome problem.

JAMES T. WATKINS, M.D. (909 Hyde Street, San Francisco)—Doctor Dunlop's presentation of his subject is most happy. The clavicle is a strut designed to keep the arm away from the side and permit of such motions as abduction. If you will recall your comparative anatomy you will remember that in certain animals which do not make motions implying abduction, for instance, it is lacking in the hoofed animals like the horse and in others, like the cat tribe, it is rudimentary; whereas in those creatures where abduction is of primary importance it is tremendously important, some of them, like birds, presenting a precoracoid bone which to all intents and purposes is an accessory clavicle.

I do not agree, however, that the coracoacromial ligament has as much to do with the stability of the shoulder as the doctor's remarks would seem to imply. In the first place, it passes from one process to another of the same bone—there is nothing to stabilize there—and in the second, while it apparently forms the dome of the shoulder joint proper, as the doctor has said Cadenat, of the University of Paris, cut its strong inner fasciculus free from its acromial attachment to replace the torn coracoclavicular ligaments without in any way disturbing the function of the shoulder thereby.

The essential thing, the important thing, about my contribution, Wilson's procedure, and Dunlop's operation is not the technique at all. It is the absence of the hazy thinking of the failure to recognize the mechanism, the anatomy and physiology, of the shoulder joint and just what had happened to the structures in that region when a dislocation of the outer end of the clavicle occurred; and all of which had theretofore led to this too often futile stitching together of the ends of the bones only.

Wilson's use of a fascial roll is doubtless good surgery. It has been used elsewhere with success. It implies, however, making a second wound and I do not know what stress it would stand before giving way. The same uncertainty applies to what Dunlop did. I am very glad his results were so gratifying.

In selecting silk fish line of a given tensile strength I knew exactly what I could rely upon—that it would withstand a pull far in excess of any to which the shoulder was likely to be subjected. The objection to the procedure

is the theoretical one that I was introducing into the body a foreign substance. On the other hand, I had as my justification Lange's experience of over 2000 cases, as well as my own; which is that if the silk is boiled for one hour in 1-1000 sublimate, dried absolutely in the autoclave, then boiled for a half hour in paraffin and left there till the moment it is to be used; when the paraffin is again melted the tissues invariably tolerate it.

If surgeons do not take these precautions, they may or may not "get away with it"; but that "who trust to luck may expect bad luck" is as true of surgery as it is elsewhere.

## PRIMARY CARCINOMA OF THE LUNG†

By JULIUS SHERMAN \*

*Primary carcinoma of the lung, formerly considered a rare disease, has of late years shown a markedly increased prevalence. Early diagnosis is difficult owing to the insidious character of the symptoms and the tendency to simulate those of other diseases, such as tuberculosis, cardiorenal diseases or other inflammatory processes of the lungs. It is difficult to make an early diagnosis even with the roentgen ray because of the variability of the location of the tumor and its secondary complications such as pleural effusion or inflammatory reactions in the lung tissue. Early diagnosis is the most important factor in the treatment. Surgery affords the best means for a possible cure or for prolonging the life of the patient. The success of the surgical treatment depends upon the location and type of malignancy.*

It is not uncommon to find a malignant growth in the lungs or mediastinum, metastatic in character, the primary seat of which may be in the stomach, pelvic organs, breasts, bones, kidneys or any other part of the body, but it is more rare to find a malignant growth originating in the lung. Of late years, however, the recognition of primary carcinoma of the lung has shown a marked increase. In the early stages of a malignancy arising in the lung tissue the diagnosis is rather difficult and frequently confused with inflammatory processes of the lung tissue or early tuberculosis. Even roentgenologically an early diagnosis of the presence of this disease in the lung is extremely difficult to make. The symptoms themselves may be misleading, being frequently confused with the symptoms of tuberculosis, cardiorenal, gastrointestinal and other inflammatory diseases.

### ETIOLOGY

The etiological factors in this disease are several in number. The older, as well as more recent, writers agree that a chronic irritation is the most important cause of primary carcinoma of the lung. Chronic irritations may be due to trauma and infections of the respiratory tract. As to this there is no definite proof available. The number of instances of chronic pulmonary infections unaccompanied by development of carcinoma would seem to be evidence against it. However, the existence of lung cancers found in miners supports the theory

that chronic irritation precedes cancer, illustrated by the frequent occurrence of cancer of the lung in the Schneeberg miners of ores containing arsenic and cobalt. Inciting trauma, a blow or other injury to the lung tissue, may have been received from one to five years previous to the development of the cancer. Respiratory infections of long standing such as tuberculosis, influenza, syphilis and other diseases of bacterial origin may, through chronic irritation of the pulmonary tissue and inflammatory hyperplasia of the lung, give rise to a new growth.

It has been claimed that the prevailing practice of tarring roads and streets has brought about an increased incidence of cancer due to particles of tar irritating the lungs, which is an experimental method of producing cancer in the lungs of animals. There is also the possibility that the increased inhalation of irritating gases from automobiles and industrial processes constitute important factors in the cause of lung cancer. Excessive smoking of cigars and cigarettes and the inhalation of their fumes may possibly be an etiological factor. Statistics indicate that this disease is more common in men than in women.

CASE I—J. B., aged 56, a contractor, was first seen on October 12, 1924. During the previous year the patient had been subject to morning coughing spells without expectoration. This condition was thought to be an ordinary bronchitis requiring no medical attention. In February, 1924, there developed attacks of dyspnea, dryness of the throat and a choking sensation, brought on by physical exertion. He was treated for "catarrh" and apparently improved. Shortly afterwards gastrointestinal disturbances set in. These were characterized by gas, distension, a feeling of uneasiness in the epigastrium and some eructations, as well as a loss of appetite and some loss of weight. In June, 1924, he consulted Dr. W. P. Read and Dr. Leo Eloesser.

In the course of an x-ray examination in July, 1924, a large tumor, occupying almost the entire right lower lobe was found (Figures I and II). There was no indication of metastasis. The patient was given a series of deep roentgen ray treatments, after which he left for the country. He regained 22 of the 38 pounds he had lost since the onset of this disease.

About October 1, he returned complaining of an increasing dyspnea and epigastric distress, and again he began to lose weight. It was at this time that the patient came under my care. Examination revealed some emaciation and extreme dyspnea upon the slightest exertion. His fingers were noticeably clubbed. He suffered from an irritating cough with slight expectoration, which was not blood-streaked and he gave no history of hemoptysis. The chest examination showed definite dullness and flatness in the right chest, extending almost to the clavicle. The dullness was more marked toward the base of the lung. Neither breath sounds nor rales were heard over this area but there was some evidence of compensatory breathing in the left lung. The heart was enlarged and pushed toward the left axilla. The sounds were very irregular and feeble as compared with the strength of the radial pulse, giving definite evidence of an adherent pericardium. Blood pressure was 130 systolic, 70 diastolic. The abdomen was normal. The extremities, except for the clubbing of the fingers and toes, were also normal. The temperature rose occasionally to 99.6 F. The Wassermann reaction was negative. He had a hemoglobin of 75 per cent. The red cells numbered 4,900,000; the white cells 15,000, of which 80 per cent were polymorphonuclears, 16 per cent lymphocytes and 4 per cent transitionals. The urine was straw colored, acid in reaction; the specific gravity was 1015 and contained a slight trace of albumen, a few hyaline casts, a few epithelium and pus cells and bacteria. Examination of the stools were positive for occult blood; the sputum showed no tubercle bacilli.

† Read before the Medical Section at the annual meeting of the California Medical Association, May, 1926.

\* Julius Sherman (350 Post Street, San Francisco). M. D. University of California, 1916. Graduate study: Intern, Mount Zion Hospital, 1916-17. Previous honors: Voluntary Assistant in Medicine, University of California, 1917-18; Assistant in Medicine, 1918-21; Assistant in Medicine, Stanford University, 1924-25; Clinical Instructor in Medicine since October 1, 1926. Hospital connections: Lane-Stanford Hospitals. Scientific organizations: San Francisco County Medical Society, C. M. A., A. M. A. Present appointment: Instructor of Medicine, Stanford University. Practice limited to Medicine since 1924.



Figure I—June 27, 1924. This shows a rounded smooth shadow of increased density at the right base extending up to the 8th interspace. This is sharply outlined above in the axilla and lies posteriorly.

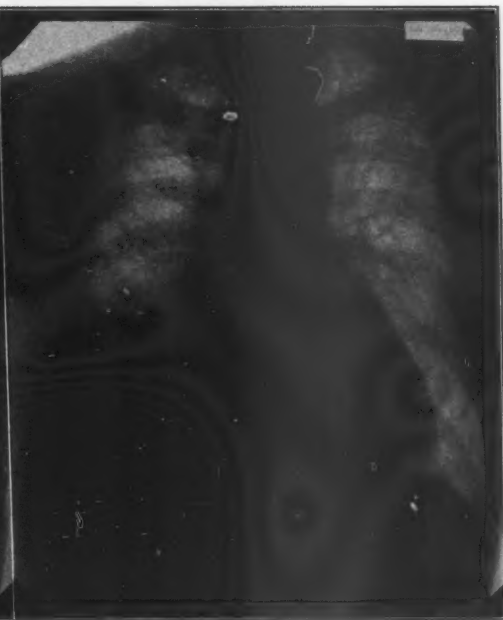


Figure II—October 7, 1924. This film shows the tumor at the base obscured by fluid in the pleural cavity. There is also a definite bottle-shaped enlargement of the cardiac shadow, due to effusion within the pericardium.

On October 18, the patient entered Mount Zion Hospital. Thoracentesis was done and 500 cc. of yellowish fluid was obtained, the specific gravity of which was 1015. Red and white blood cells were found in the fluid; the white in the proportion of 14 per cent polymorphonuclears to 18 per cent lymphocytes. The Rivalta test was slightly positive. There were no bacteria found on the smear or in the culture. Guinea-pig inoculations proved to be negative for tuberculosis. Thoracentesis was repeated four times at three-day intervals. The relief from the dyspnea was marked, particularly after the first tapping. The last two tapings showed an increase of macroscopic blood. The patient was put on digitalis and shortly afterward showed great improvement. After the second tapping, however, he developed an aphonia which persisted until the day of his death. This aphonia proved later to be due to a paralysis of the right vocal cord.

A roentgenogram was taken immediately after the first tapping (Figure III), which showed a round, smooth shadow of increased, uniform density in the right lower lobe, resembling the shadow found in the x-ray taken in June. This was lying well posteriorly, with the center over the tenth rib (as shown in Figure III). There was a thickening of the interlobar septum between the middle and lower lobes on the right. A small amount of fluid in the right pleural cavity was found. There was no evidence of metastasis in the left lung, mediastinum or bones. We could not account for the paralysis of the recurrent laryngeal nerve. At a consultation with Drs. Herbert C. Moffitt and Harold Brunn a diagnosis of primary carcinoma of the lower lobe of the right lung was made and operation advised. The operation was performed by Brunn under local anesthesia on November 13. The right thoracic cavity was entered by resecting the 7th, 8th, 9th, 10th and 11th ribs posteriorly. This tumor was found to be hard, somewhat nodular, and adherent to the diaphragm and also to the lung tissue, but it did not invade the latter. In separating the tumor from the middle lobe, a mass of necrotic material escaped from the center of the tumor. As much of the tumor as possible was removed, and its bed cauterized. The cavity was packed with petrolatum gauze. The cauterization was repeated twice after the operation.

The microscopic report of the tumor from Dr. G. Y. Rusk, department of pathology, University of California Medical School, was as follows: "The examination was made from an unusual number of sections taken from various portions of the specimen. About one-third of these showed the tissue entirely necrotic, in places having lost all structure and in other areas retaining an outline of tissue form. It resembled coagulation necrosis (Figure IV).

Other portions of tissue showed intense fibrosis varying considerably in the number of cells and in evidences of old organization present. Accompanying these were remnants of lung tissue which showed an intense interstitial pneumonia with varying degrees of infiltration by lymphocyte and plasma cells. Endarteritis was also present to a marked degree. Alveolar epithelium covered these irregular inflammatory areas and in certain areas there was a distinct overgrowth of such epithelium extending into the denser fibrous tissues below. These abnormal epithelial cells were uniform in size, grew diffusely, and showed no tendency to adenomatous formation on the one hand, or cornification on the other. Among the cells many were seen undergoing mitotic division. While the connection between the epithelium of the alveoli and the new growth was marked in some places, in other sections small islands of the invading epithelium were seen deep in the tissues.

**Diagnosis**—Chronic interstitial pneumonia with marked necrosis. Epithelioma of the lung apparently arising from alveolar epithelium.

From shortly after the operation to January 8, 1925, on which date the patient left the hospital, he was able to walk around and showed marked improvement. There was a decided decrease in the clubbing of his fingers, the hemoglobin increased to 80 per cent, he gained in weight and his color improved. There was no change, however, in the paralysis of the recurrent laryngeal nerve, his voice remaining as husky as before.

On January 20, a roentgen-ray examination of his chest did not reveal metastasis in the lung tissue or mediastinum. The marked improvement which followed the operation, was of short duration. He developed attacks of angina pectoris and suffered with suffocation at night. He was frequently kept awake with pain in the right side



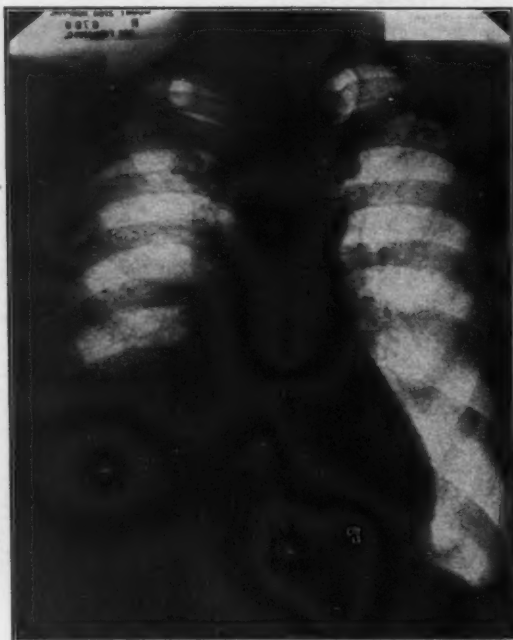


Figure III—October 22, 1924. The fluid has been partially withdrawn from the pleura and the fluid is partially absorbed from the pericardium.

of the chest and neck. The right chest had collapsed at the site of the operation, almost closing in the large cavity. The patient died on August 18, 1925. Unfortunately, a necropsy was unobtainable.

CASE II—H. S., age 36, a tobacco merchant, came to my office in December, 1923, for antisyphilitic treatment, stating that he had contracted this disease about three years previously and for which he had received a course of antisyphilitic treatment elsewhere. His Wassermann reaction at this time was XXX. In other respects the physical examination was negative. The patient was placed on antisyphilitic treatment.

In September, 1924, the Wassermann reaction was negative and subsequent Wassermann tests up to the time of his death were all negative. The patient was not seen by me from December, 1924, until May 26, 1925, at which time he again appeared, complaining of pain across the right shoulder and extending to the right side of the neck, along the right sternomastoid muscle and along the attachment of the right trapezius to the base of the skull. This pain was more marked at night, while in a reclining position. There was also marked tenderness and slight swelling of the right sternoclavicular joint. His temperature at this time was 99.6 F., pulse 78, respiration 20. There were a few moist rales, at the base of the right lung posteriorly. The Wassermann reaction was still negative. The hemoglobin was 78 per cent. The red cells totaled 3,804,000; the white cells 14,600 of which 67 per cent were polymorphonuclears, 20 per cent lymphocyte; 13 per cent large mononuclears, and 1 per cent myelocytes. The urine was of lemon color and alkaline in reaction; the specific gravity 1004; it contained a very faint trace of albumin, a few pus cells and an occasional red blood cell. The stools showed no occult blood. The sputum showed no acid-fast bacilli.

On May 27, a stereoscopic roentgenogram of the sternoclavicular joint showed a thinning of the cartilage of the right sternoclavicular joint and a very slight irregularity of the articular surface of the clavicle. The changes were thought to be due to a tubercular process. There was an irregular area of coarse mottling at the right base and a thickening of the interlobar septum between the lower and middle lobes, which were suspected to be inflammatory in origin (Figures V and VI).

The normal pulse, the absence of fever and night sweats, and the absence of tubercle bacilli in the sputum led me to exclude tuberculosis. Considering the facts that the pains were more marked at night than during the day, that disease of the sternoclavicular joint is more characteristic of syphilis, that there was a history of this infection, I placed the patient accordingly.

During a month's antisyphilitic treatment the condition became progressively worse; a nonproductive cough appeared and the patient lost about six pounds during the course of this illness. Although various tonics and nourishing foods were administered, he showed no improvement.

On August 26, 1925, three months after the first x-ray had been taken, another roentgenogram was taken which revealed the following points (Figures VII and VIII): The right sternoclavicular joint showed a rather marked improvement, there being no apparent deviation from the normal. On the other hand, the lesion in the right base had progressed rather markedly, with noticeable retraction of the entire right thorax. The diaphragm was elevated on the right with an adhesion to the pleura. The area of consolidation was much larger and extended from the level of the seventh rib posteriorly to the ninth interspace and from the midline well out toward the axilla. It was somewhat pyramidal in shape with the apex in the axilla.

Soon after this a right supraclavicular gland became palpable and he began to raise bloody sputum. At this time I suspected his malady to be a malignant growth, and on September 11, 1925, Dr. Harold Brunn excised one of the supraclavicular glands under local anesthesia. Microscopic examination by Dr. G. Y. Rusk showed a background of irregular sclerotic connective tissue scattered in which were small irregular spaces lined with cuboidal epithelium, usually one layer thick, but occasionally two or three cells thick. Mitoses were seen in such cells. Focal accumulations of pigment occurred, apparently from old hemorrhages. The diagnosis then made was adenocarcinoma with marked desmoplastic reaction (Figures IX and X).

At this time there developed dyspnea, paroxysmal cough and small pulmonary hemorrhages and the patient rapidly lost ground. He died suddenly on October 30, 1925, probably from a pulmonary hemorrhage due to an erosion of a large blood vessel. Unfortunately no postmortem examination was performed.

*Pathological Anatomy*—Pathologically, primary carcinoma of the lung may arise from (1) epithe-



Figure IV—Pathological report of Dr. G. Y. Rusk. Epithelioma of the lung apparently arising from alveolar epithelium.

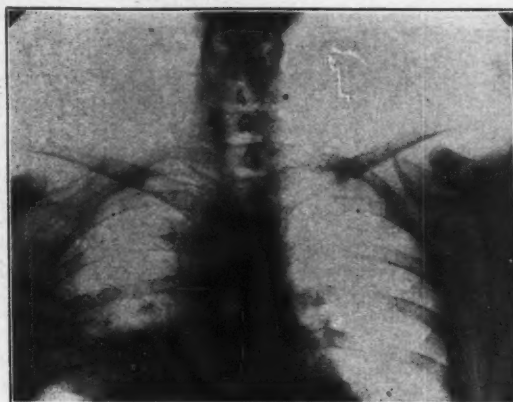


Figure V—May 27, 1925. This shows a thinning of the cartilage of the right sternoclavicular joint and a very slight irregularity of the articular surface of the clavicle.

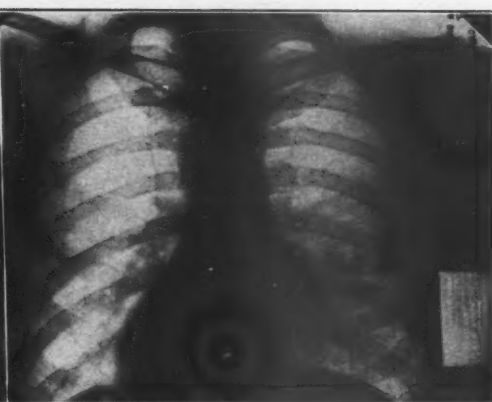


Figure VI—There is an irregular area of coarse mottling at the right base and a thickening of the interlobar septum between the lower and middle lobes, which were suspected to be of inflammatory origin.

lium lining of the bronchial mucosa, (2) mucous glands, or (3) epithelium lining the alveoli.

In the carcinoma arising from the bronchial lining we have an alveolar arrangement, the cells being squamous, cylindrical or nonciliated. Macroscopically, the bronchial epithelium, the pleura and the parenchyma have generally been found to be involved.

In tumors originating in mucous glands, the microscopic structure imitates that of the mucous glands. The cells occasionally secrete mucus and the greater part of the tumor is usually restricted to the submucosa producing early signs of bronchial stenosis.

Ewing divides tumors arising from epithelial lining of the alveoli into two classes: (a) diffuse and (b) multiple and nodular. One whole lobe or the whole lung is uniformly consolidated in the diffuse form. The lesion resembles organizing pneumonia or gray hepatization and croupous pneumonia. The pleura is generally involved and local and general metastases are frequent. In the multiple and nodular form the air vesicles are completely or partially filled with cuboidal, cylindrical or flat cells.

**Symptoms**—A careful survey of over 600 cases in the current literature, including all the cases reported by Adler (252) warrants the conclusion that the symptoms vary with the position and distribution of the malignant growth and the structure it involves.

The most prominent symptoms of lung cancer is cough which is absent only in a very small percentage of cases. The cough is generally mild in its incipient stage, characterized by its dry, irritating and fairly constant nature. The degree of all these factors is modified by the location of the tumor.

The existence of this cough and no otherwise abnormal findings in the bronchial tree should indicate the possibility of a pulmonary neoplasm. The literature records other forms of cough, some explosive and most annoying; others accompanied by little or no distress. The cough is one of the first symptoms to appear, but in some cases may be deferred until shortly before the patient's death. The moder-

ately loose cough of bronchitis is present in the majority of cases which later produces mucus and is often mixed with blood. In later stages of the disease there is the hoarseness and well-known laryngeal cough produced by a paralysis of the recurrent laryngeal nerve. This indicates that the tumor growth has invaded the recurrent laryngeal nerves or has caused a secondary inflammation involving the nerves.

Dyspnea also is a very important symptom, but does not necessarily occur in every case of malignancy. It may range from a mild form on exertion to an orthopnoeic type, following the slightest exertion. This threatened death by suffocation is most pathetic to witness, but fortunately the patient has periods of respite from these terrible attacks. Medical or surgical relief at this time is impossible. Another tragic complication is the involvement of the mediastinal glands which form large masses, pressing upon the trachea extrinsically and producing almost an entire closure of the trachea. This condition may be brought about intrinsically as well by the proliferation and the intrabronchial carcinoma. Effusion produced by any intrathoracic tumors may be directly responsible for the dyspnea rather than the tumors themselves.

Pain in the chest is very rare early in the disease, unless pleura or intercostal nerves are involved. In the pleura it may even set up an inflammation and produce a typical sharp pleural pain on inspiration or coughing. In the intercostal nerves the pain may be referred to any part of the nerve involved. Metastases may be responsible for pain in remote parts of the body, as illustrated in Case II. In this instance pain in the right sternoclavicular joint was the first symptom that brought the patient to the physician before any evidence of pulmonary carcinoma was established.

There is no characteristic sputa of malignancy of the lungs. Some writers have described currant, raspberry and prune jelly sputa, also a grass-green sputum, but bloody sputa which may occur early or late in the disease seem to be most reliable in corroboration of the diagnosis of malignancy of the

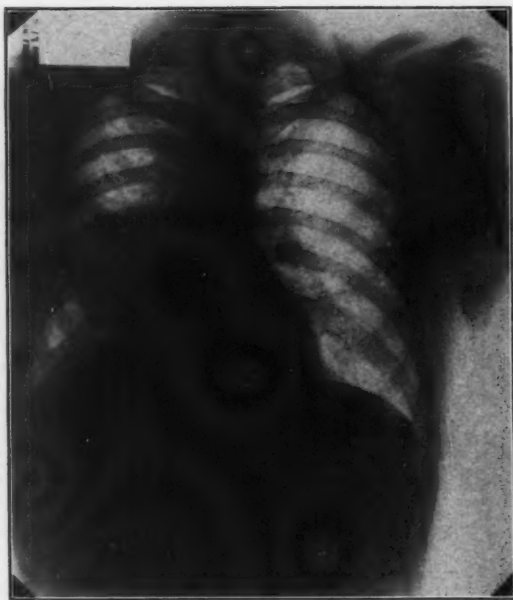


Figure VII—August 26, 1925. This shows a definitely outlined shadow of increased density extending from the base up to the central portion of the right lung. This is fairly sharply outlined below and fades out in the normal lung tissue above. It is somewhat pyramidal in shape with the apex in the axilla. The diaphragm on the right is elevated with slight amount of tenting. The entire right lung field is slightly increased in density.

lungs. In some patients the sputa may contain tubercle bacilli or other bacteria, and the diagnosis of pulmonary carcinoma is not made.

Loss of weight and cachexia, which always accompany malignancy, are extremely irregular in its early stages. In some patients loss of weight has been observed as one of the early symptoms long before anything at all pathological was discovered in the lungs. During the early stages of this disease there have been cases where the weight fluctuated, the initial loss being compensated for by a later gain. During the final stages, however, there is always a decided loss in weight and cachexia.

Fever, as a rule, follows a secondary infection or a flaring up of an old tubercular process, due to the lowered vitality of the lung tissue. The rise in temperature may also be induced by a pleural effusion which had become infected. Most writers agree that a slight increase in temperature may occur in uncomplicated cases of lung carcinoma.

Osteoarthropathy is a sign that generally follows diseases of the thoracic organs. This is claimed to be due to toxins which cause proliferation of the periosteum and the soft tissues or to poor aeration. It may also be due to a long-continued hyperemia, secondary to the intrathoracic pathology. In the soft tissues the terminal blood vessels of the fingers and toes do not allow the toxins to be carried off, which probably cause clubbed fingers and toes, a frequent accompaniment of intrathoracic disease. Some writers have reported changes in the anterior lobe of the pituitary body, but others have taken exception to this claim, as similar changes are found in the

same organ after other diseases of long standing and even after normal pregnancy.

**Complications**—Paralysis of the recurrent laryngeal nerves, pleural effusion, and even pericardial effusion, may be encountered early, but more often later in the disease. When the neoplasm involves a blood vessel it may produce a hemorrhage, and this may be the first sign of malignancy of the chest, and may be readily confused with tubercular hemorrhages. Misplacement of the heart to the right by left-sided tumors or effusions may also occur and metastasis involving frequently the heart muscle and adrenal glands are accepted complications.

**Diagnosis**—The most important factor in the diagnosis of primary carcinoma of the lung is that it should be made as early as possible. The physician must correlate the clinical history together with the physical examination of the patient. Laboratory tests and examination of the pleural effusion and sputum, together with roentgen ray and bronchoscopic examinations, all aid in reaching a diagnosis. The use of the bronchoscope requires special skill and experience. Early bronchial tumors have been diagnosed by the bronchoscope at an earlier stage than they are visible by the x-ray. This instrument aids in the determination of points of pressure, thereby enabling the surgeon to drain the cavities and immediately perform a biopsy. Dyspnea, paroxysmal cough, expectoration of bloody sputum and pain in the chest in an adult, may indicate a pulmonary malignant growth.

In interpreting x-ray findings we must consider both benign and malignant tumors. Benign tumors with a definite outline are rare, and on repeated examination show an extremely slow growth. Malignant tumors are from an x-ray classification, accord-



Figure VIII—August 26, 1925. The right sternoclavicular joint shows a marked improvement.



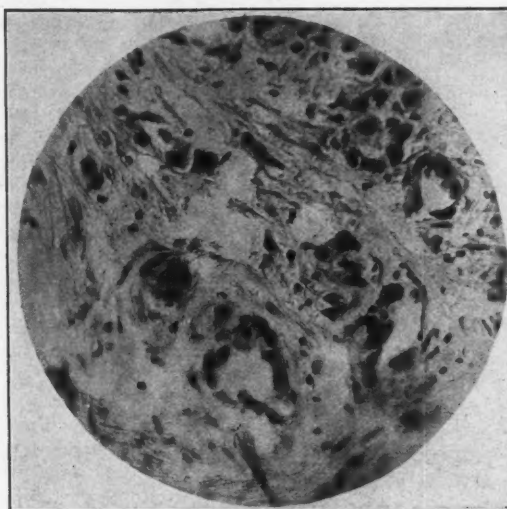


Figure IX—Pathological report of Dr. G. Y. Rusk. Section of excised supraclavicular gland, showing adenocarcinoma.



Figure X—Pathological report of Dr. G. Y. Rusk. Section of supraclavicular gland showing small irregular spaces scattered in a background of irregular sclerotic connective tissue.

ing to Brunn: (1) hilar, infiltrating and bronchial; (2) lobar, nodular, and miliary; and (3) mixed.

**Treatment**—Surgery, including cauterization, if necessary, offer the one hope for the relief of pain, prolongation of life, and perhaps a cure. But it must be done before metastases have occurred or complications set in. Roentgen ray and radium therapy have not proved at all successful.

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**Spinal Anesthesia**—Harry W. Martin and Rachel E. Arbuthnot, Los Angeles (Journal A. M. A.), review more than 6000 cases of spinal anesthesia in the Los Angeles General Hospital, with especial consideration of genito-urinary operations. The fall in blood pressure is said to be greater than with any other anesthetic; hence, spinal anesthesia should not be used in patients with great circulatory hypotension or in those with myocardial degeneration or anemia. Its safety and desirability is increased by being supplemented with a light gas-oxygen anesthesia. Central acting drugs are valueless. Only drugs with a peripheral pressor action are of value. Blood pressure readings should be taken frequently. The morning cup of black coffee with sugar, or orange juice, is beneficial. Patients, as a rule, should have a preliminary opiate. Needles should be of small caliber and of nickel or nickeloid. Loss of spinal fluid should be guarded against as far as is practicable. If used in selected cases and carefully supervised the mortality with spinal anesthesia should be less than 1 in 1000. If it were even 1 in 100, it would still be a desirable anesthetic in selected cases because the postoperative mortality directly attributable to inhalation anesthesia in many prostatics is considerably greater. Spinal anesthesia is most valuable and efficient for operations below the diaphragm when complete muscular relaxation is sought, but is a form of anesthesia to be used with discrimination and for special reasons.

## PRENATAL CARE

By W. E. HUNTER\*

(From the Intermountain Clinic)

DISCUSSION by R. S. Allison and LeGrand Wooley, Salt Lake City.

PRENATAL care, strictly speaking, means care of the child before birth, but is used here in the larger sense, which embraces both infant and maternal welfare. The health of the unborn child depends, for the most part, on the health of the prospective mother. By surrounding the mother with the proper mental and physical environment, and by instituting proper measures during pregnancy, we are able to increase the safeguards to her health and indirectly improve the health and decrease the hazards to the child. Experience has shown that healthy mothers are more likely to have healthy babies, and healthy babies more often grow to make better citizens. Good health, like education, is an asset to any individual or community both economically and socially. Childbearing carries a far greater morbidity and mortality than appears on the surface. It ranks second only to tuberculosis as the cause of death in women between the ages of 15 and 40. It is estimated that 65 per cent of the operations on women are the result of this so-called physiological function.

Only a small percentage of obstetrics in Utah is conducted by midwives, and most of their patients are in outlying districts where there are no doctors. In the larger centers I believe that most of the deliveries are conducted in hospitals or maternity homes. From what I gather, the prenatal care given by an occasional physician consists of taking the name and address of the patient and estimating the time of delivery. Any physician who assumes the responsibility of guiding a pregnant woman through her troubles should give her that care which the test of time has shown to be most helpful. Some of the insurance companies have recognized the advantage of such services, and issue maternity booklets to their policy holders. One company has extended its campaign into full-page magazine advertisements and sends visiting nurses to help in the care of the pregnant woman both before and after delivery. One line italicized in this pamphlet reads: "The first and most important thing to do, consult a doctor as soon as you know or think that you are pregnant." When these patients consult some doctors he too often takes the name and address, estimates the date of confinement, and rests on his oars until the time of delivery. He may ask for a specimen of urine, but its examination may depend more or less upon his appointments at the time of its arrival.

The value of prenatal care is so generally accepted that it needs no reiteration. The well-known radical reduction in the amount of eclampsia is only

one of the outstanding advantages produced by competent prenatal service. Many fetal and maternal deaths are often erroneously attributed to the accidents of labor, when the real cause may have been present even before pregnancy began. When a physician contracts to take care of a pregnant woman he should assume the whole responsibility and not leave anything for well-meaning, often inadequately educated friends and relatives to supply. Home remedies and harrowing tales only confuse the already bewildered prospective mother. It is the doctor's duty to explain matters so thoroughly that the prospective mother will subconsciously follow him instead of some self-appointed friendly advisor, and to encourage her to consult him about any matter not clear to her.

About half of the mortality of childbearing is due to sepsis, and the other half is due to hemorrhage and other complications. Sepsis is often the result of somebody's ignorance or carelessness. We all utilize the value of sterilization and cleanliness in surgical work, but do we always bear in mind that similar care is quite as important in maternity service? Accidents of hemorrhage, eclampsia, prematurity, postmaturity, and dystocia from disproportions between fetus and pelvis, and the failure to correct malpositions, may be much restricted by good obstetrics.

A careful history should be taken at the first prenatal interview. This should include the name, address and telephone number, the age, occupation, and a general idea of the home surroundings. A careful inquiry should be made into the history of past illnesses, particularly those diseases which affect the heart, lungs, and kidneys. The character and date of the last menstrual period, the onset of morning sickness, the beginning of the increased frequency of urination, and the appearance of breast changes should be jotted down in order to better estimate the date of confinement. Failure to accurately estimate the date of confinement has caused many a patient to worry and fret and the doctor considerable embarrassment when the baby did not arrive on schedule. It is a good plan always to explain that the date arrived at is only an estimated date. That only 5 per cent of patients are delivered on that date, so that 47½ per cent of babies come before and 47½ per cent occur afterward. Some doctors add an extra week to this date to prevent the patient from worrying about a prolonged pregnancy.

Next a history of previous pregnancies is important. This should include a careful history of the health during such pregnancies, the character of labor and the mode of delivery, the rapidity of convalescence and the ability of the patient to nurse the baby.

At the same time or at a subsequent interview the patient should be given a thorough examination. All patients should have it even if they appear perfectly healthy. This should include an examination of the heart, lungs, kidneys and other organs, and an examination of the blood, if necessary. The patient should be carefully gone over for foci of infection, with special attention to the teeth. Any needed dental work should be attended to.

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The examination should include a measurement of the pelvis both internally and externally. Only rarely do we find pelvic deformities that present a problem, but when we do find one its early solution may lead to saving a life and possibly two. Cysts, fibroids and other abnormalities may be detected and treated, thus insuring a safer labor.

It is a very good plan to record the weight of the patient at each visit. Pregnant women are very prone to put on weight, particularly in the latter half of pregnancy. There is a normal gain of fifteen to eighteen pounds, but beyond this I believe that restriction in diet is quite imperative, since fat people are liable to prolonged labor; they do not stand well the stress of labor, and the resistance to infection is lessened and operative delivery is more difficult. It is well to bear in mind that a rapid gain in weight is often a premonitory symptom of toxemia.

The diet plays a very important part in pregnancy. It should be plain, wholesome and sufficient to supply the needs of the developing child. In the early part of pregnancy a carbohydrate diet with an abundance of fluid will work wonders in the control of the early toxemias. In the latter half of pregnancy the restriction of diet will help considerably in preventing obesity. The character of the diet also plays an important part in the health of the patient. A coarse diet containing abundance of fruit and coarse vegetables may help overcome the tendency to constipation and at the same time it will supply a certain amount of fluid and vitamins needed for the proper growth of the child. It is a good plan to arrange the diet with sufficient calcium and phosphorus in the form of green vegetables and cheese to meet the requirement of the growing baby. It is said that a deficiency of calcium may be a cause of sterility and habitual abortion in the mother and tetany in the new-born.

It is essential to see that the maternal organs of elimination are working properly. The kidneys should secrete at least 1000 cc. of fluid daily in order to prevent the accumulation of poisonous bodies in the blood stream. Hygienic measures which will increase elimination through the skin and bowels should be encouraged. Exercise, particularly in the fresh air and sunlight, should be encouraged. Fresh air and sunlight have accompanied our process of evolution and form a vital part in the metabolism of the body and the function of the cell. It has been experimentally shown that animals deprived of sunlight thrive poorly, rarely become pregnant, and the offspring are under the standard. Any light exercise which does not fatigue is beneficial. Moderate dancing, swimming, tennis, or golfing in the early months should be encouraged. Automobile riding is not nearly so hazardous as most women suspect. As long as the patient does not become cramped, frightened or fatigued, there is little danger and considerable recreation to automobile riding.

The patient should be instructed to report every two or three weeks during the first half of pregnancy and every two weeks or oftener if necessary during the second half. She should be instructed how to measure the output of urine for twenty-four hours and bring to the office a four-ounce specimen

for examination. If the patient is instructed to wash the external genitalia before collecting the specimen a microscopic examination is not always necessary unless albumin is present or pyelitis suspected. Sugar is a common symptom. Many women have a lactosuria which is of no importance, but glycosuria, whether transient or permanent, has definite significance. At prenatal visits the blood pressure should be taken. A rising blood pressure often is the first and most important symptom of an approaching eclampsia. Convulsions do not often appear out of a clear sky. A rise of 30-40 mm. means that the patient must increase the elimination and refrain from work. If the blood pressure does not decline, the patient should be put to bed. If it begins to climb, the patient should be sent to a hospital for active treatment. If there is not a lowering of the blood pressure following rest and active elimination, labor should be induced before convulsions occur.

Vaginal discharges should be examined. If gonococci are present, treatment should be instituted. Neglected gonorrheal vaginitis may be hard to treat and may prove serious for both mother and infant. Common and annoying irritations and vaginal discharges due to other causes may disturb the patient's rest. Not infrequently the external parts are swollen and infected from scratching. Frequent cleansing of the vulva and carbolio lotions give relief.

#### CONCLUSION

Tradition and ignorance on the part of the patient and negligence on the part of the doctor or attendant are the outstanding reasons for many of the accidents of childbirth. The average patient does not know the value of good care before delivery nor the importance of cleanliness at the time of delivery unless taught it by the physician. But the physician does know its significance and too often neglects his duty. The difference in doctors is not so much what they know, but the care with which they use their knowledge.

In the larger medical centers prenatal care has greatly reduced the incident of convulsions, miscarriages, stillbirths, and injuries to mother and child. If the mother will take reasonable care of herself during pregnancy and lactation she will be able to lessen or remove many of the dangers of childbearing. A considerable percentage of the deaths that now occur in some sections are avoidable and preventable, and some of the operations on women could be eliminated.

#### DISCUSSION

R. S. ALLISON, M. D. (Boston Building, Salt Lake City, Utah)—The subject of prenatal care has been exceedingly well covered in this paper, and as far as I can discover there is not much to add.

As the writer has said, there is a great deal of carelessness shown in the care of pregnant women that the physician in charge is responsible for; and also there is a great deal of carelessness and indifference shown by the patients themselves. This latter is often the result of their previous experiences. What is the value to them of consulting a doctor if his examination and care is going to consist in "taking their name and address, etc." The need today includes educating physicians who have to do with the care of pregnant women so that they will realize the value of prenatal care and thoroughly convert them-



selves to the idea, then it will be done in a thorough and efficient manner. Also, if patients are enlightened on the importance of this attention they are not going to accept inattention, and will force the one who is accepting the responsibility of the safety of themselves and children to do his duty.

I hope many such articles may be written, read and taken to heart by physicians. It is too bad that they are not more generally read by the nonmedical public as well.

The situation then in regard to prenatal care resolves itself in not so much the details of the routine used in the care of these patients, but what is of far greater importance, the persistency and regularity with which observation is carried out.

LEGRAND WOOLEY, M.D. (The Salt Lake Clinic, Salt Lake City, Utah)—This timely article on prenatal care has pretty well covered the field. There are just two points which I would emphasize. The first is the advisability of doing careful routine pelvic measurements, combined with an estimation of the size of the child near term. Contracted pelvis is really not an uncommon condition even in private practice among white women. With clinic white patients, Williams (American J. Obstet. and Gyn., June, 1926) finds 8.96 per cent of the usual types of contracted pelvis and 5.03 per cent of funnel pelvis. Polak says the incidence of the usual types is 10 or 11 per cent in New York. Though nearly 80 per cent of these women will deliver their babies spontaneously, the cause of labor requires the thoughtful attention of the accoucher. The more extreme degrees of contraction are best treated by Caesarean section, before or at the beginning of labor. But the very nicest obstetrical judgment is required to determine in the borderline cases whether to permit trial labor or to perform an elective Caesarean or other type of operative delivery. From the number of spontaneous labors we have seen subsequent to Caesarean, supposedly for this indication, I am convinced that many physicians are rather too liberal with the indications for Caesarean section. Williams makes the very interesting observation that the babies born to mothers with generally contracted pelvises are smaller than those born to mothers with funnel pelvis; who are in turn smaller than those from mothers with simple flat pelvises.

The management of pregnancy and labor complicated by heart disease, likewise, calls for the best obstetrical and clinical judgment. The mortality from cardiac causes is probably greater than from any other single complication of pregnancy, and no complication of pregnancy is more treacherous.

In a recent review of our cases we noted an incidence of heart disease in 3.65 per cent of 902 obstetric patients. This is exclusive of a much larger number who had only a systolic apical murmur. This is not the occasion to discuss the management of these patients further than to emphasize the necessity of making the proper diagnosis early in pregnancy and of keeping the patient under sufficiently close observation and regulation throughout pregnancy without unduly alarming her; and we might further remark that the condition of the heart muscle, rather than of the heart valve, is what determines the prognosis. The unusual significance which attaches to mitral stenosis is probably due to the extensive or progressive damage to the heart muscle by the same process that causes the stenosis.

**Free Breath**—This is exploited by O. W. Dean Co. Inc., Benton Harbor, Michigan, as "The World's Wonder Treatment for Asthma, Bronchitis, Hay Fever and Catarrh of the Mucous Membranes." The advertisements for this nostrum stress the fact that asthma sufferers can try "Free Breath without cost." Those who receive the sample are then importuned to order the "complete treatment," price \$18. Practically every "patent medicine" sold for the alleged cure of asthma contains either potassium iodide, Fowler's solution, or both, and then analyzed in the A. M. A. Chemical Laboratory the preparation was found to consist essentially of 7 gm. of potassium iodide and 0.05 gm. of arsenic trioxide in 100 cc. This is equivalent approximately to 21 grains of potassium iodide and 24 minims of solution of potassium arsenite per fluid-ounce.—Journal A. M. A.

## ETIOLOGICAL FACTORS IN CHRONIC COUGH

### AN ANALYSIS OF ONE HUNDRED CASES—PRELIMINARY REPORT

By WILLIAM C. VOORSANGER AND FRED FIRESTONE \*

**M**EDICAL literature of the past few years has abounded with reports of all sorts of pulmonary conditions mistaken for tuberculosis and suggested names for them. Voorsanger (1919) reported on some of these conditions and drew conclusions which after further study and experimentation we believe still stand. They were primarily to the effect that first we must recognize some nontuberculous pulmonary infections as diseases, and second that 10 to 16 per cent of diagnosed pulmonary tuberculosis is not tuberculosis.

This paper is a preliminary report of one hundred patients with chronic cough who were encountered in routine chest examinations at Mount Zion Hospital outpatient clinic and in private practice and who have had further and intensive study. All of them had a questionable symptom syndrome simulating the cardinal symptoms of tuberculosis with cough of a persistent nature, pain in the chest, hoarseness, loss of weight and strength, night sweats, history of hemoptysis varying from a mere blood-streaked sputum to actual massive hemorrhage, with general weakness and inability to carry on his or her occupation.

The present work was undertaken to ascertain whether by careful examination, physical x-ray, bacteriological and guinea-pig injection, a small per-

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centage of the numerous patients with undiagnosed cough and negative sputum and physical findings could not be demonstrated to be actually suffering from tuberculosis. We attempted to recover tubercle bacilli from the sputum by guinea-pig inoculation in those cases where sputum and culture were negative, but where symptoms and pulmonary findings as revealed by physical and x-ray examination simulate pulmonary tuberculosis, and are often justifiably so diagnosed.

What then are these conditions and, if properly classified, can they be relieved? Must the patient with so-called chronic bronchitis or chronic asthma continue to cough, wheeze and suffer because no proper effort has been made to diagnose his trouble?

Our study of one hundred cases of nontuberculous pulmonary conditions demonstrates that where we have not been able to recover tubercle bacilli in the sputum no tuberculous lesion in guinea-pigs inoculated with this sputum or the patient's pleural effusion occurred. Wankel of Germany in reporting 127 tests by guinea-pig inoculations with sputum as a method of distinguishing open and closed tuberculosis, concludes that tubercle bacilli cannot even be found by animal inoculation tests in the sputum of all tuberculosis patients who expectorate, but states that animal inoculation gives about 35 per cent more positive results than direct sputum examination.

A detailed analysis of the cases reported is given in the table below, which shows what we deem to be the underlying pathology causing cough in the patient investigated.

Enlarged bronchial root glands.....	8
With peribronchial and hilum thickening.....	23
With thickening of pleura.....	5
With basal thickening and density.....	4
Coarse mottling and fibrosis.....	10
Healed pulmonary fibrosis with calcification.....	8
Emphysema bronchiectasis and asthma.....	12
Chronic bronchitis and pharyngitis.....	4
Sinusitis.....	4
Tonsillitis.....	2
Pleurisy with effusion.....	3
Mitral incompetency.....	4
Aortitis and aneurysm.....	2
Thyroid insufficiency.....	1
Hyperthyroid.....	1
Right pneumothorax.....	1
Lung abscess.....	1
Bronchopneumonia with abscess.....	1
Neurasthenia and anemias.....	1
	100

Our study shows that the largest group of these patients are those in whom x-ray examination of the chest was described as a pulmonary fibrosis with enlargement of the bronchial root glands with or without calcification, and an associated diffuse peribronchial thickening of the parenchyma of the hilum of the lungs. A careful investigation of the history generally elicited the presence or report of measles or whooping cough during infancy, followed by influenza during the epidemics of 1917-19 and 20, followed further by recurrent attacks of cold causing a persistent, generally scantily productive cough, indefinite pains in the chest and shoulders, fever, and especially weakness and run-down feeling. This group of patients was treated by autogenous vaccines made from three sterile consecutive sputums. Passive immunity with abolition of many of the

symptoms was produced and was followed by a marked improvement in the general well-being of the individual.

Bacteriological examination of the sputum in this group of patients with peribronchial involvement and clinical signs of asthma showed the prevailing organisms to be micrococcus catarrhalis, streptococcus nonhemolyticus, streptococcus hemolyticus alpha and beta, streptococcus viridans, and secondary invaders as gram positive diplococci and staphylococci. One patient supplied a pure culture of streptococcus viridans which caused death of the guinea-pig within twenty-four hours. The patient had signs of a severe upper respiratory infection, resembling the toxemia of influenza.

In many of the patients the pathological condition in the chest had advanced to a stage of bronchiectasis, with signs of wheezing and mucus-moist rales of bronchiospasm. Results of treatment by autogenous vaccines in this influenzal group has been quite encouraging. McCrudden calls this condition "post influenzal chronic pneumonitis," describes the clinical, physical and x-ray findings, and finally concludes that "condition exists," but has no definite pathognomonic signs. Hurwitz in the study of bacterial asthma points out the significance of the influenzal group and their response to autogenous vaccines.

Landolphi in the study of 3580 patients in different epidemics describes 106 as having pleuro-pulmonary symptoms simulating tuberculosis, and calls the condition pseudo-tuberculosis in influenza.

In a study of patients at Saranac Lake between 1911 and 1922 Trudeau considers as well-grounded advice to "regard all persons with pulmonary hemorrhage as being tuberculous until they are proved otherwise."

Meader describes a condition called "nontuberculous peribronchitis" and feels that indirect suggestive evidence is afforded by radiology, which usually shows rather sharply outlined thickening of the bronchial markings, especially in the middle and lower lung fields, accompanied by varying degrees of parenchymatous densities, occasionally by bronchial dilatation and frequently associated with varying degrees of increased density and extent of root shadows. He feels this group is definitely related to influenza or active recurring acute upper respiratory infections and permit of a favorable prognosis when treated by vaccines, rest, or climate; he emphasizes the importance of recognizing these conditions.

A thorough study of the literature on "nontuberculous pulmonary fibrosis" has been made by Dorothy Atkinson, in which she describes the pathology, clinical and physical findings in the group of conditions following acute respiratory infection, and emphasizes the diagnostic importance of repeated negative sputum findings, the eliciting of a careful history dating back to a previous respiratory infection, the relatively mild character of the symptoms with a tendency to recurrent cough. The pulse and temperature keep below the level usually found in tuberculosis, and the amount of disability is not in proportion to the physical findings. The location of the lesion is important, for it is usually basal in the nontuberculous patients, in contrast to the "primary

focus of tuberculosis as described by Ghon which appears as a small calcified area usually well out in the lung fields and the secondarily involved lymph glands which may or may not be calcified. The characteristic "fuzzy" opacities and cavities of tuberculosis are absent.

L. H. Fales in discussing the relative value of the roentgen ray and physical signs in the diagnosis and treatment of tuberculosis concludes that the x-ray is the most important means of determining the existence of pathological conditions in the lung, for it will show lesions not demonstrated by physical signs and generally a greater area of involvement than elicited by physical examination. He states that peribronchial infiltration was generally accompanied by negative sputum while parenchymal infiltration was found in 68 per cent of the patients with a positive sputum.

Chevalier Jackson calls attention to the importance of foreign bodies present in the larger bronchi causing a bronchiectasis in children and adults with symptoms simulating tuberculosis, and points out the value of the x-ray and bronchoscope as means of isolating the foreign body. The condition he states causes asthmatic paroxysms which clear up following the removal of the foreign body and aspiration of the bronchiectatic cavity through the bronchoscope.

R. H. Meade reports a condition following the late effects of war gas simulating pulmonary tuberculosis, and in a study of 3000 ex-service men examined by the war risk insurance bureau (Kansas) found no evidence of gassing predisposing to tuberculosis or activating a tuberculous infection.

H. L. Hart and W. A. Gehler report three patients with conditions simulating pulmonary tuberculosis, with fever, cough, hemoptysis, rapid pulse, loss of weight and strength whom subsequent study revealed to be mitral stenosis and hyperthyroidism without bacteriological evidence of tuberculosis. He recommends a careful examination of the heart and metabolic rate determination as giving diagnostic evidence of value.

F. S. Bissel states that from a roentgenologic point of view the great differential task in chronic pulmonary disease is the differential diagnosis of tuberculosis "against the field." He believes the rather distinctive feature of the early foci of adults is their location in the area of Chauvet, besides the vertebral column and between the first and third dorsal spines. But almost as frequent and far more characteristic of early tubercle is a second situation in the second and third interspace near the periphery of the lung. A healed lesion in one lung with an acutely active process in the other lung suggests tuberculosis. Fibrosis and calcification do not of themselves justify a roentgenologic diagnosis of tuberculosis; on the other hand, caseation is always a sign of tuberculosis. Basal involvement without an earlier process at one or both apices is practically nonexistent as a roentgenologic finding of adult tuberculosis.

#### CONCLUSION

1. The present nomenclature for nontuberculous pulmonary conditions is inadequate.

2. Ten to sixteen per cent of diagnosed pulmonary tuberculosis is not tuberculosis.

3. No lesions of tuberculosis have been demonstrated on guinea-pigs from inoculations of tubercle bacilli-free sputum as determined by the smear method.

4. A distinctly infectious form of chronic pulmonary disease exists which is amenable to treatment and cure with an autogenous vaccine.

5. The prevailing organisms found in the above patients are micrococcus catarrhalis, streptococcus nonhemolyticus, streptococcus hemolyticus alpha and beta, streptococcus viridans and secondary invaders such as gram positive diplococci and staphylococci.

6. Influenza is the main etiological factor in the production of infectious asthma and bronchitis.

7. The x-ray is of inestimable value in differentiating tuberculosis from nontuberculous pulmonary conditions.

8. Thirty-two per cent of our patients are etiologically in an undiagnosed group and are classed generally under the heading of enlarged bronchial root glands and peribronchial thickening.

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**Obstetrics and Gynecology Chronic Endocervicitis.**—The etiology, symptomatology and secondary pelvic manifestations of chronic endocervicitis are discussed by C. Jeff Miller, New Orleans (Journal A. M. A.). He emphasizes the facts that the structural peculiarities of the cervix, its frequent exposure to trauma and infection, and its faculty of harboring bacteria over long periods of time, prove that local, superficial treatment is worse than useless, and that any methods which are to succeed must be directed toward the underlying pathologic change of the deeper cervical structures.



## TREATMENT OF PRURITUS OF THE ANUS AND GENITALIA

By HARRY E. ALDERSON \*

DISCUSSION by Kendal P. Frost, Los Angeles; Douglass W. Montgomery, San Francisco; Irwin C. Sutton, Hollywood; Charles E. Schoff, Sacramento; H. J. Templeton, Oakland; Frederick H. Rodenbaugh, San Francisco.

**P**RURITUS of these regions may occur in either place and persist there or the itching may gradually involve both anus and genitalia. This is true of both sexes. Sooner or later lesions attributable to scratching or rubbing appear and complicate the situation, rendering therapy more difficult. This pruritus in the great majority of cases is largely of reflex origin, but local conditions enter into the process to a very considerable extent. For example, some pathological process in the rectum, prostate, deep urethra, seminal vesicles, bladder, uterus or other pelvic structure may be the cause; but local inflammatory or neoplastic changes in the anal or genital skin and mucosa or increased secretion of the same will aggravate the pruritus. Even a very small amount of secretion finding its way along anal fissures and creases will bring on paroxysms of severe itching. There are cases occasionally where the condition is entirely local in origin.

This distressing condition may be made very much worse by ill-considered treatment occasionally leading to serious complications. The stimulating action of tarry and other substances in common use for pruritus on a mucocutaneous area, already rendered eczematous by constant rubbing, may produce carcinoma. An aggravated example of this occurrence recently has come to my notice. Thus a purely inflammatory dermatological process may in time become a surgical condition with serious possibilities.

The agonizing itching that characterizes this trouble calls so urgently for relief that the victim must have something at once to alleviate his suffering. Sometimes if this can be accomplished over a period of a few days the vicious circle is broken and the violent scratching is stopped long enough for repair of damaged tissues to be accomplished. Then rational therapy based on etiology can be instituted. Local treatment is beneficial, but unless underlying etiological factors are eliminated permanent relief is not obtained. We often have cases due to disease of the deep urethra, prostate seminal vesicles, or related structures. Recently one came to our notice where paroxysms of severe perineal itching accompanied and followed the sexual orgasm, and persisted for some time. It is a very common experience to find internal hemorrhoids, fissures or other rectal

pathology to be the main cause of the trouble. Likewise disease of the female pelvic organs with or without marked leukorrhea is often seen. If patients presenting any of these conditions have diabetes mellitus, naturally pruritus is more prone to develop and persist. There are cases too where the diet or gastrointestinal pathology (functional or organic) or intestinal parasites are the major factors. Excessive use of tobacco seems occasionally to be related to the trouble. Individuals with seborrheal skins also are more susceptible, and the local condition is more apt to become aggravated. In diabetics as well as in seborrheal patients, secondary infections become established more readily and local infection often has a great deal (but not everything) to do with the pruritus. We occasionally find a local streptococcus infection. Some have reported good results from the administration of streptococcus vaccine in these cases. They even recommend the treatment where no evidence of local infection is found. The finding of streptococci in the stools has been considered by some as sufficient reason for administering this vaccine therapy. It is difficult to understand how this treatment can be permanently successful where underlying pathology in some pelvic viscus is the primary reflex cause of the trouble. Naturally, the eliminating of a streptococcus or any other local infection should be one of the objects of treatment. Occasionally I have found an epidermophyton infection present, but never have I considered it to be the main cause. No doubt the good effects of the stronger mercurial, phenol or resorcin preparations used locally in such cases are due in part to their parasitocidal action. With causes acting reflexly, and underlying conditions having their unfavorable influences, it is evident that local treatment alone can never suffice. It goes without saying then that every effort should be made to find and eradicate these main factors. However, there are some local measures that will ameliorate the condition in most cases.

As spells of itching are often started by the presence of rectal, vaginal or skin secretion in the folds of the anal mucosa and skin, a rapidly drying non-irritating solvent is of use here. If this solvent contains an anipruritic agent it will give relief lasting for several hours. Carbontetrachloride C. P. containing  $\frac{1}{2}$  per cent of phenol or 2 per cent camphor has been very useful for these purposes. It penetrates the ducts, follicles, crypts, and folds in the skin, dissolves secretions and excretions destroying bacteria and fungi. It dries quickly. It has one objection, namely, the vapor from it may cause vertigo. This can be guarded against, however, by applying the solution carefully and providing for plenty of ventilation in the room. Sometimes it produces considerable smarting, but this lasts only a few minutes. To some patients this smarting gives welcome relief. Usually this "dry cleaning process" will relieve one from pruritus for the whole night. Some skins may require more oil. Then lanolin may be dissolved in the carbontetrachloride. After this application, a powder like magnesium carbonate or talcum may be dusted on. Sometimes calomel powder locally will be useful. Occasionally an ointment containing 10 per cent of calomel will help. In any event the carbontetrachloride should be applied at

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least twice daily as a cleanser. The using of a wet cloth instead of toilet paper is helpful sometimes. Hot compresses give great relief. I believe that this is due in part at least to the resultant emptying and cleansing of the skin and mucous membrane, ducts, crypts, and follicles. There are many antipruritic ointments, the best ones containing phenol. Ultraviolet light applied systematically will toughen the skin and inhibit bacterial growth, in this manner helping the local condition. In my experience, however, no local measures give symptomatic relief in as large a number of cases as do applications of carbontetrachloride solutions. Surgical removal of the area involved, nerve section, nerve injection and other measures to produce complete local anesthesia are mentioned here, only to be condemned. The results are apt to be only temporary, as nerve-regeneration takes place rapidly. To do full justice to our patients we should exert every effort to discover and eradicate the underlying causes and not be satisfied with local therapy alone.

#### DISCUSSION

KENDAL P. FROST, M.D. (831 Pacific Mutual Building, Los Angeles)—Doctor Alderson's paper brings up a condition which is always with us, and his suggestion of carbontetrachloride is a welcome addition to our therapeutic agents. I can do no more than to add my plea to Alderson's that the internal pathological condition which underlies practically every case of pruritus ani must be taken care of, else the pruritus is bound to recur no matter what local treatment is used. I do not consider pruritus ani a disease *per se*, but a sympathetic expression of pathological disturbances in the lower intestinal tract and other pelvic organs except where there happens to be a localized manifestation of some definite skin disease, in which case internal factors may have a determining effect on localization of the skin manifestation. We see eczema, particularly of the seborrheic type, psoriasis, epidermophyton infections, as well as many other skin conditions connected with this disorder. They all resist local measures unless the underlying, pathological, disturbance is taken care of. Alderson's suggestion of carbontetrachloride as a cleansing agent is noteworthy. Most patients with pruritus ani are careless of their personal hygiene in this area, and proper cleansing is an important factor in their care.

D. W. MONTGOMERY, M.D. (323 Geary Street, San Francisco)—It is interesting to note the increasing attention dermatologists give to the troublesome symptom called pruritus ani. A few years ago one would not hear this affection mentioned in a meeting of this kind; now it is repeatedly touched upon both formally and casually. As Alderson says, pruritus ani may arise from many causes, but possibly the greatest proximate cause is congestion. Congestion in its turn may arise from many causes, of which that sluggish habit of the body called constipation is the most frequent. And one of the most frequent causes of this sluggish condition is the sedentary habit. The sedentary habit is a characteristic of the age in which we live. A few years ago the only industrial people who sat at their work were tailors and shoemakers; now there are thousands whose occupation entails sitting for many hours of each day as, for instance, stenographers, telephone operators, and those who ride much in an automobile. These seem to me to be the main reasons for the great increase in the number of people suffering from pruritus ani.

IRWIN C. SUTTON, M.D. (Taft Building), Hollywood, California)—Doctor Alderson's paper is timely, inasmuch as there is an increasing number of people with "desk jobs." To those who must sit on a hard seat, I insist that they provide themselves with a feather pillow, which helps to carry off the perspiration and prevents friction of the anal region. Tight and rasping underclothes must not be worn. Wiping and patting the anus with a pledget

of cotton dipped in a saturated solution of boric acid is a valuable substitute for the use of the bleached toilet papers now on the market. The remarks on the overuse of tars are pertinent, although I have had good results from liquor carbonis detergens diluted with an equal part of olive oil and used liberally on the anal region.

CHARLES E. SCHOFF, M.D. (Farmers and Mechanics' Bank Building, Sacramento)—Doctor Alderson has brought to our attention a very valuable therapeutic agent for the relief of the pruritis accompanying certain pathological conditions affecting the region of the anal orifice and genitalia.

Particular attention should be drawn to the fact that it is not offered as a curative measure, but as a means of relief to those suffering from this annoying affliction.

I have had the opportunity of using it in a limited number of patients, and it has been most gratifying, particularly when used in combination with either phenol or camphor. The ease and cleanliness of the application, its chemical, mechanical and therapeutic virtues commend carbontetrachloride C. P. to the physician for trial.

Underlying pathological lesions, of course, should be sought and eradicated if possible; dependence upon the drug as a specific agent to remove all causes will meet with disappointment.

H. J. TEMPLETON, M.D. (3115 Webster Street, Oakland, California)—Doctor Alderson's paper is a most excellent summary of modern knowledge of pruritus ani. Just as in any other symptom, the cause must be sought out and removed. This is of the greatest importance. However, in our enthusiasm in this quest we must not overlook that for which the patient consulted us, namely, relief. I have seen some very good results from the use of carbontetrachloride as recommended by Alderson. The remedy which has worked the best in my hands is the x-ray. This is practically always palliative and sometimes curative. I give one-half skin unit of unfiltered rays every two weeks, giving up to four or five such treatments if necessary. In the meanwhile the cause is determined and remedied if possible.

FREDERICK H. RODENBAUGH, M.D. (490 Post Street, San Francisco)—I am not qualified to discuss the dermatological aspect of Doctor Alderson's paper, but as a roentgenologist frequently treat this condition. The results, in my experience, have been most satisfactory.

I have found that the majority of patients are relieved by a dosage of from one-quarter to one-half filtered unit given at weekly intervals. It has not been my practice to continue treatment if there has been no response from the first three treatments. It is my impression that if a patient will react favorably to x-ray there will be some relief following a single treatment, and if this does not occur it will probably not respond to the x-ray. These patients should have local treatment if needed as no permanent relief can be expected until the local irritation is cured.

The dosage to secure results is safe and can be used repeatedly with no harmful effect.

DOCTOR ALDERSON (closing)—I wish to thank the discussants very much for their remarks. As most of these patients are seen by dermatologists, it is worth while bringing the subject up for discussion occasionally.

"Pabst Extract—The 'Best' Tonic" not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Pabst Extract—The "Best" Tonic is claimed to be "pure extraction of malt, properly flavored and combined with hops and is preserved by no other means than pasteurization." The preparation is stated to contain alcohol, by volume, 3.70 per cent, and 1.45 gm. of hops are used for the preparation of 12 fluid ounces of "tonic." The Council found Pabst Extract—The "Best" Tonic unacceptable for New and Nonofficial Remedies because (1) the name does not indicate the potent constituents—malt and hops—of the mixture; (2) the claim "The 'Best' Tonic" is not warranted; (3) the therapeutic claims are unwarranted; and (4) it is sold to the public with claims that tend to its indiscriminate and ill-advised use.—Journal A. M. A.

You can't start a revolution in a land where everybody knows what a niblick is.

## SOME THOUGHTS ON THE PSYCHOLOGY OF REFRACTION

By JOHN FASSETT EDWARDS\*

THE psychologic aspect of refraction brings us into a very intimate relationship with our patient, since our findings profoundly affect his mental and physical being, prolonged through all his waking hours, constantly reminding him of us, favorably or otherwise. And it seems that there is little in ophthalmology which has a more penetrating attack upon the mind of our patient than whether or not we furnish him a satisfactory, agreeable pair of glasses.

Our patients appear before us in all sorts of mental conditions—anxious, morbid, worried, neurotic, exalted, hurried, overworked, tired, doubting, timid, confident and always expectant. We have to meet all of these situations without hesitancy, without failure of tact and always with skill. Surely this is no mean task; and the demand upon us is very great. I much doubt if many of us give this aspect of our daily medical work in optics any particular consideration; we accept it as a matter of course, routinely, consequently I fear that we often blunder in our handling of patients through lack of clear appreciation of the delicacy of our position.

Unless we shall have acquired, or are so fortunate as to have naturally an attitude of impressiveness of our ability to cope with the problems of our patients, we shall be greatly handicapped and limited in the effectiveness of our labors. Much of our work consists in being able to enforce obedience upon our patient when out of our presence, and unless we thoroughly impress such patient with the thought that he is expected to give us unquestioning belief and obedience, we shall surely fail to obtain his full co-operation. Irritable and morbid persons, in particular, will be deeply impressed with our personal radiation of atmosphere, and this may be favorable or the reverse. If unfavorable, the patient immediately builds up a defensive and antagonistic mental attitude which is difficult to change. This influence may reach into the subjective mind, and serve as an incentive for future acts. It is very unwise to ignore such a state, and we should be keenly alert to perceive its existence. If we fail to note this our results may be rendered negative, even erroneous, despite all our skill supplemented by modern aids to objective refraction. Patients who accept our optical prescription with a doubt of its value are demonstrations of such a mental condition. It has been my experience to find this attitude now and then among elderly people whose life experiences may have been of such nature as to curdle the milk of human kindness to some degree. The frequent and natural outcome of this

complex is that the unconvinced, doubting patient, is quite likely to pass out of our purview and to become even actively antagonistic to us. Certainly it is highly improbable that there will ever come a time—if I may assume the mantle of discredit which traditionally attaches to a prophet—when we shall be able to eliminate entirely the co-operation of the patient in fitting optical aids to human vision.

It is credent that much of the impressiveness of well-established and famous oculists is imparted by their fine offices, trim assistants, the air of complete capability, reinforced by the circumambient atmosphere of ability to correct perfectly their patients' ailments.

I recall the enthusiastic description of a man of large business affairs of what he had seen in a well-equipped office of a successful oculist, ending his remarks by saying that he had not known before that there were so many instruments made for the fitting of glasses. Manifestly, his belief in the ability of that ophthalmologist was in direct proportion to this extensive equipment. That all oculists do not believe that elaborate and perhaps intentionally showy equipment is indispensable is evidenced by the fact that in a recent issue of "The American Journal of Ophthalmology" the dean of American oculists, Edward Jackson, in discussing the necessity for ophthalmologists to equip themselves with the very expensive slit lamp corneal microscope, alleges that simple equipment is entirely adequate if well supplemented by skilled use, akin to the famous painter who mixed his pigments with brains.

The lack of a personality pleasing to patients is a liability calculated to jeopardize their confidence and co-operation. This is especially important for oculists, who often must require patients to remain under observation and treatment for months or years. And while the attitude of dominant positiveness may, like anything else, be overdone, I am constrained to believe that it produces less undesirable effects upon patients than manifest indecision in statements to them.

Obviously, we should formulate our diagnoses with all care and study, taking sufficient time in which to do this, employing every modern aid to accuracy of findings, and when our work shall have been completed it becomes incumbent upon us to furnish the patient a definite statement of conclusions. The old habit of some physicians of being mysterious—sometimes, alas, a cloak for ignorance—has largely fallen into disuse. It probably is ill-advised always to furnish all the information obtained, but our patient deserves a reasonable amount of information as to his condition. We often hear the remark, "Well, what did your doctor say is the matter with you?" "Why he didn't say anything," with an air of disappointment. There is no excuse for overlooking this if we will but assume the position of the patient. Furthermore, while our statements should be given with due weight and conviction, they also should be made with due regard to the possible consequences of inflicting a mental shock upon sensitive patients. It is usually better to disclose delicate information to relatives or friends who may be able to transmit all that is

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advisable, without unjustified concealment of conditions requiring attention.

Many times our best efforts to obtain accurate ocular measurements are nullified by lack of attention on the part of the patient. This is particularly so in the young. It requires much patience and tact to serve an active small boy, and particularly so when accompanied by the loving mother who has made such a complete job of spoiling him. At such times it will often be found expedient to send the parent out of the room, then in a darkened refraction room, with extraneous sights and sounds eliminated, the vacillating attention of the child may be secured by interesting him in the various small lights and mirrors in common use, and thereby promote his essential co-operation. And occasionally such a course of procedure may be advisable with adults, especially with those of low sensory threshold.

Anxiety or a strong element of subconscious doubt, even in intelligent persons, may induce a state of negation which operates greatly to impair and retard the best of efforts for the patient's benefit. An essential factor in handling this class of patients is a steadfast and insistent endeavor to remove the impelling cause of such doubts and fears. Often a lack of manual dexterity militates against a good impression, as does any undue roughness in handling the patient.

Apathy of greater or less degree is annoying at times. This may be due to mental preoccupation or impaired intelligence. This condition gives rise to erroneous replies to our questions, and may result in serious errors on our part. This remark particularly applies to refraction without a cycloplegic, due to the forward projection at such times of the objective mind in dominance of the subjective. Patients often apply for help with their minds surcharged with business worries or weighty home cares, which make them poor subjects for refraction unless their full co-operation and interest are secured. Fuchs (Textbook of Ophthalmology, 7th ed., p. 221) makes the following pertinent statement:

"Patients who are mentally depressed or mentally backward and patients who are nervous and supersensitive require special care in examination and special attention in treatment. The relief of their eye conditions may be an essential element in their improvement, and we must give our best efforts to secure good results in this regard. At the same time in our zeal to correct the eyes we must not forget the individual and his idiosyncrasies nor the fact that the correction of his other physical and nervous elements claims equal attention with his ocular treatment."

Some years ago a very active and busy merchant came hurriedly into my office for a refraction, and insisted on my completion of the work in twenty minutes. In reply to my vigorous protest against such a limited time, he maintained the impossibility of giving me more time and the great urgency of his ocular needs. By dint of careful chart work, retinoscopy, and ophthalmoscopy, the work was completed in the specified time, but not without a considerable doubt on my part of its value. My assurances as to his having to take the hurried result

were acceptable. In fact the fitting was entirely satisfactory and worn with comfort. His keen co-operation had made success possible.

Some of us do not personally deliver and adjust our optical fittings. In my opinion this does not operate to the mutual benefit of ophthalmologist and patient. Manufacturing opticians are not infallible, and lenses should undergo our own inspection and verification prior to delivery. Even a slight displacement of the axis of a cylindrical lens, especially easy in these days of round lenses, will often render glasses highly irritant and result in a dissatisfied patient, for which the oculist may be blamed. There is an ancient Spanish maxim which runs "The eye of the master fattens the horse." Moreover, I always demonstrate the value of my optical results at the same chart where the patient was fitted, thereby forestalling any desire to test his glasses in his own and often defective fashion. This takes time, to be sure, yet I maintain that it is time to which patients are entitled, and certainly it is a valuable part of the psychology of refraction, which should not be neglected.

It is a mistake to attempt refraction on patients muddled by alcohol or drugs.

A word about equipment. A part of my refraction outfit consists of a black background white letter standard chart, devised by James Thorington of Philadelphia which is lighted by a 200-watt daylight lamp contained in a large silvered reflector located about seven feet above the floor and the same distance toward the patient, who sits at twenty feet from the chart. This chart ensemble has proved delightfully satisfactory to me during the past year. Most eye charts are much overlighted, irritating the eyes of the patient, producing considerable retinal fatigue, and causing the maintenance of attention to be a difficult matter.

Concluding, I again quote from Fuchs' monumental work. In speaking of the correction of refractive errors, he says:

"In this regard we must remember that we are treating patients, not eyes, and must therefore take into consideration all the physical and mental factors which may affect his outlook upon life and determine his need for refractive or other correction."

**The Persistent Positive Wassermann Reaction**—"A Wassermann-fast reaction is a reaction that remains strongly positive or uninfluenced by long-continued treatment which is able in most cases to reverse a positive Wassermann," believes L. G. Beinhauer (American Journal of Syphilis, July, 1926, p. 455). "Statistics would lead us to believe that the criteria for a Wassermann-fast reaction may be stated as those cases which have remained persistently positive after the average of twenty to thirty or more arsphenamine injections of mercury, bismuth, or both. One is impressed with the prevalent but erroneous idea among physicians that syphilis is to be treated by courses or numbers of antisyphilitic injections. The trend of the day asks us to treat actively all positive serologic findings of syphilis. We are losing sight of the fact that syphilis, like other medical diseases, requires a personal individualization of the patient, and this is especially true of Wassermann-fast patients. When the triad of arsphenamine, mercury and iodides have failed to produce the desired result it is not unwise to try the modern additions such as bismuth, sodium thiosulphate, nonspecific protein therapy, and rest. There is no routine treatment for syphilis."

ON THE VALUE OF LIPIODOL AS AN AID IN  
NEUROLOGIC LOCALIZATION

A REPORT BASED ON SIX CASES

By JULIAN M. WOLFSOHN AND EDMUND J. MORRISSEY \*

DISCUSSION by Walter F. Schaller and Leo Eloesser,  
San Francisco.

**L**IPIODOL, as a diagnostic agent, was presented to the medical profession by Sicard and his co-workers more than four years ago. During this period it has been proved of great value to the surgeon in the differential diagnosis of obscure lung conditions, to the urologist and gynecologist in the x-ray diagnosis of urogenital disturbances, and not least to the neurologist in the localization of spinal lesions.

Lipiodol is a heavy, oily, chemical compound, consisting of 0.54 grams iodine to each cc. poppy-seed oil. It is nontoxic, bland, and impermeable to the x-ray. It is extremely slowly absorbed, being demonstrated *in situ* by the x-ray two years after injection into a muscle.

Sicard found that it was nonirritating to mucous and serous surfaces and that it could be safely injected not only into the pleural and peritoneal cavities, but also into the subarachnoid space without producing any serious constitutional disturbances.

Since Sicard's discovery several other neurologists have reported very favorably on the use of lipiodol in localizing certain spinal cord lesions causing more or less complete subarachnoid block.

## TECHNIQUE OF LIPIODOL INJECTIONS

The patient is placed in the lateral or sitting posture and prepared for cistern puncture. Two to three cc. spinal fluid are removed from the cisterna magna and immediately the same quantity of warmed lipiodol, free from air bubbles, is injected

into the cistern. By this maneuver the lepto meninges are kept distended, thus providing for the free descent of the lipiodol.

The patient is now placed in a sitting position with head slightly bent forward. The neck is gently percussed over the site of the injection, or the head is gently moved a few times forward, backward, and laterally. These procedures also aid the descent of the lipiodol.

Where there is no subarachnoid blockage, x-rays taken a few minutes after injection, with the patient in a sitting position, have shown the lipiodol collected in the lumbosacral cul-de-sac. (See Fig. 1.)

Where obstruction of the subarachnoid space exists from tumor, fracture, inflammation of the meninges, etc., the lipiodol is arrested at the exact position of the lesion in relation to the vertebra. As Sargent says, "from an operative standpoint, localization is more accurate than can be arrived at by neurological examination."

Not only can the exact level of the block be located, but in many cases the size and shape of the tumor can be delineated (Figs. VI and VII).

Sargent further found that he could often differentiate between extra and intradural tumors by means of lipiodol. He said that "extradural tumors occupy few segments of the cord, as a rule, and intradural many segments."

Sicard has discovered also that lipiodol is capable of "outlining a compression even at the beginning where chemical changes are at a minimum."

The following six cases of spinal cord lesion, upon which this paper is based, clearly show, both to the neurologist and to the surgeon, the value of lipiodol as an aid in spinal localization.

**CASE I—Transverse Myelitis Epiconus—No Subarachnoid Block**—L. H., single, American, clerk, 24 years old, entered San Francisco Hospital complaining of paralysis of left leg. Family history negative. Four years ago patient had right leg amputated in upper part of thigh for sarcoma. Microscopic diagnosis was periosteal sarcoma. At that time blood Wassermann was negative. Six months ago he had a chancre.

Present illness began three months before admission

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Edmund J. Morrissey (Medical Building, San Francisco). M.D. University of California, 1922. Practice limited to Neurological Surgery.



Fig. 1

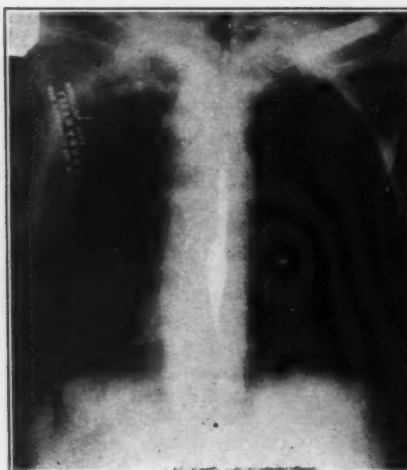


Fig. II

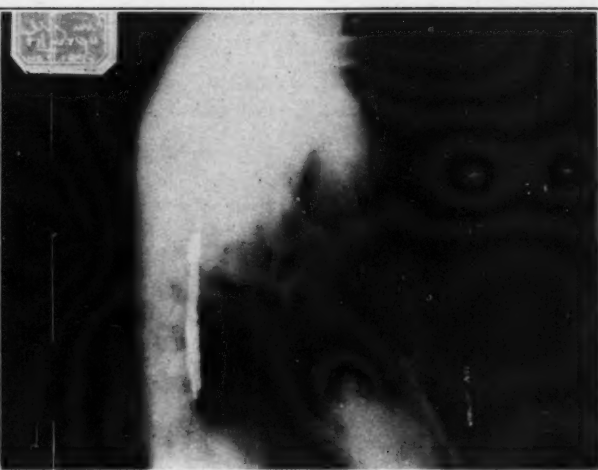


Fig. III

with difficulty in moving his toes (left). The weakness soon spread to ankle, leg, and thigh over a period of two and a half months. At present he is unable to move entire left leg and stump of right thigh. During this period he visited the clinic, where it was found that his blood and spinal fluid Wassermann was two plus, and he received antisyphilitic treatment without avail. There were no bladder or urinary disturbances.

Positive findings on examination were flaccid paralysis of left leg. Hypesthesia over left ankle and foot. Absent reflexes left leg. Spinal fluid and blood Wassermann two plus. Diagnosis of transverse myelitis (syphilitic) or metastasis to spine with pressure on spinal cord at level of first lumbar vertebra. X-rays of spine were negative. Lipiodol revealed no block, and after forty-three days the lipiodol was freely movable in the subarachnoid spaces evidenced by following x-ray reports.

*January 26, 1926*—All the lipiodol has gathered in a column extending from the top of the fifth lumbar vertebra to the top of the second segment of the sacrum.

*March 11, 1926*—In the supine position the lipiodol is now collected in a column from the eleventh dorsal to the second lumbar vertebra. A little of it is at the top of the sacrum. In the lateral recumbent position it is collected in a column from the eighth dorsal to the third lumbar vertebra.

**CASE II—Compression Paraplegia—Tumor Metastasis Subarachnoid Block at D 10**—L. J., married, Chinese, age 56 years, entered San Francisco Hospital August 6, 1925, complaining of mass on right side of neck and paralysis of both legs. Family, marital, and past history essentially negative.

Present illness began ten months ago, when he noticed a small mass on right side of neck which has been getting larger, until now it is the size of a small orange. One week ago he noticed weakness and loss of sensation in both legs, associated with incontinence of urine and feces.

Positive findings were, first, a mass of enlarged glands in right side of neck extending from mastoid almost to clavicle; second, flaccid paralysis of lower extremities



Fig. IV



Fig. V



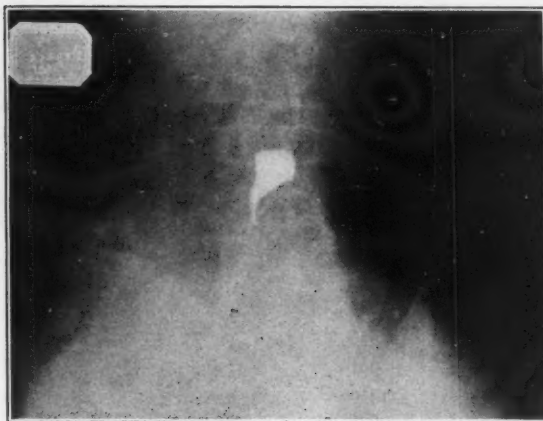


Fig. VI

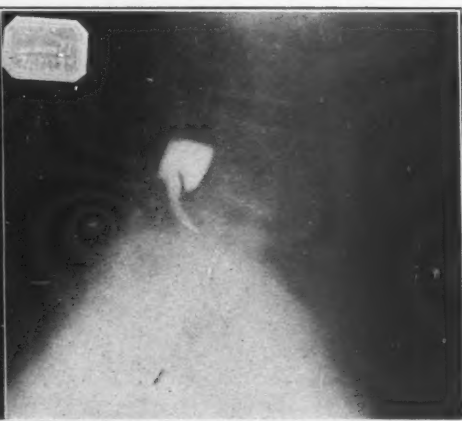


Fig. VII

with hypesthesia from level of the ninth dorsal segment below together with loss of vibratory sensation.

Spinal fluid clear, colorless; 3-5 cells per cmm. Pandey and Nonne negative. Wassermann negative. Blood and urine essentially negative. X-rays of dorsal vertebra negative.

Cisternal puncture and injection of 2 cc. of lipiodol. X-ray shows complete obstruction at level of tenth dorsal vertebra. (See Figs. II and III.)

Section of gland excised from neck showed carcinoma.

**CASE III—Spastic Paraplegia, Subarachnoid Block Level D 9**—J. M., Italian laborer, single, 32 years old, entered the San Francisco Hospital on the Stanford service complaining of paresthesia over both feet and ankles, numbness (especially the left), and muscular weakness and spasticity of both legs. Family history is negative. Past history negative except for chancre at the age of 17.

Present illness began eight months ago with paresthesia of left leg and foot below the knee. Two months later he was aware of these same altered sensations in the right ankle and foot. Accompanying these changes in sensation in both legs was a muscular weakness and spasticity of both legs, more marked on right. He would stumble on walking, misjudge the height of stairs, etc. Weakness has progressed so that now he is only able to walk with the aid of crutches. For the last two months he has been constipated and has had difficulty in urination. Positive findings are spasticity and weakness of muscles of thighs and legs associated with increased reflexes and bilateral pathological reflexes, i. e., Babinski, Oppenheim, and Gordon, and ankle clonus both sides. There is hypesthesia from the level of the eighth dorsal segment down, slightly higher on left side.

**Laboratory**—Blood Wassermann plus; spinal fluid Wassermann negative. Cells 6. Neg. Pandey. Urine negative. X-ray of spine negative.

About 2.5 cc. of lipiodol injected through cistern puncture. X-ray shows block at the level of the ninth dorsal vertebra. (Figs. IV and V.)

**CASE IV—Neurofibroma of Cauda Equina**—F. B., single, age 27 years, entered San Francisco Hospital on the Stanford service December 28, 1925, complaining of ulcer on heel of left foot. The familial and past history are essentially negative. The present illness began fifteen years ago at the age of 12 years, when patient was struck in the lumbar region with a baseball following which he experienced rather sharp pains radiating down both legs. One year later he was placed on a Bradford frame with diagnosis of "Pott's disease," and was kept on frame for eight months. Upon being removed from frame patient noticed left leg was smaller than right. Loss of sensation began two years after the accident and progressed until about five years ago and has remained stationary since. He now enters for painless ulcer of heel received two months ago, when he rested foot on exhaust pipe of machine.

The positive findings are slight atrophy of the muscles of both legs—more marked on left—from the knees down. No paralysis nor spasticity. There is absent sensation to touch, pain and temperature over the left buttocks, posterior part of left thigh and outer surface of left leg and foot, areas supplied by fourth and fifth lumbar, 1-2-3 sacral segments. Rectal sphincter tone poor. Reflexes negative except for absent Achilles, both sides.

**Roentgenograms** of lumbar and sacral vertebrae. There is a cyst-like absorption of the posterior half of the bodies of the fourth and fifth lumbar, as if from pressure rather than from destructive new growth. The laminae are thin and hazy.

**Laboratory** tests of blood, spinal fluid, urine, negative. About 2.5 cc. of lipiodol injected in cisterna magna and x-rays taken later showed a block at the lower border of the third lumbar vertebra. (See Figs. VI and VII.)

Operation revealed a fibroma of the cauda equina at the level of the fourth and fifth lumbar vertebrae.

**CASE V—Angioma of Cauda Equina—Bilateral Sciatica**—G. S., single, Greek waiter, age 34, entered San Francisco Hospital on the Stanford service complaining of constipation and pains in left lower abdomen and buttocks. Familial and past history negative. Present illness began about three and a half years ago with dull aching pains in lumbar region occasionally radiating down both legs to ankles; this pain was worse at night. During the last year and a half he has been suffering from marked constipation.

The positive findings were: absent sensation to touch, pain and temperature over right buttocks and posterior part of thigh (areas of 1, 2, 3 sacral segments). No muscular weakness or reflex changes except absent Achilles on left, and rectal sphincter tone poor.

**Roentgenograms** of lumbar and sacral spines showed the sacrum has six segments. The lateral masses of the first segment have not united perfectly. There are hypertrophic fringes on some of the lumbar vertebrae. The lateral view of the lumbosacral articulation shows no evidence of spondylolisthesis. The top of the sacrum makes an angle of 50 degrees with the fifth lumbar. On account of the lumbar lordosis, this makes for a weakness at this joint. There is a slight list of the spine to the right. These findings suggest that there is a sacroiliac slip.

**Laboratory** examination of blood negative. Spinal fluid (obtained by cisternal punctures, spinal puncture unsuccessful) slightly yellowish tinge, globulin positive. Wassermann and Lange negative. Urine negative.

About 3.5 cc. of lipiodol were injected following cisternal puncture, and x-rays taken showed a block at the level of the upper margins of third lumbar vertebra. (See Figs. VIII and IX.) Operations revealed an angioma at the level of the third and fourth lumbar vertebrae.

**CASE VI—Pott's Disease—Spastic Paraplegia**—A. D.,

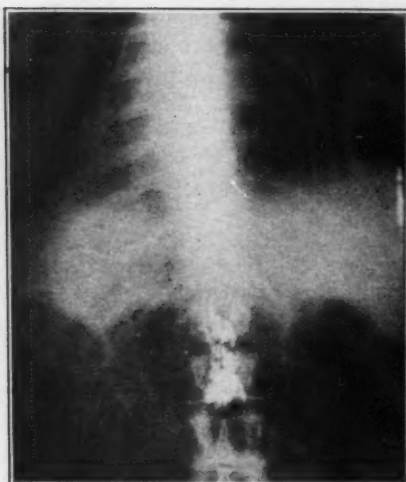


Fig. VIII

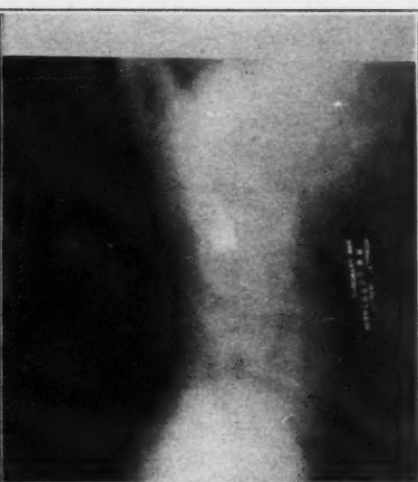


Fig. IX

10 years, female. Chief complaint was inability to walk since birth. Spinal deformity. Sore in both gluteal folds. Family history negative. Past history: normal birth. Has never tried to walk. Has had no diseases except convulsions at the age of 2, after eating grapes. Has always been healthy except for the conditions existing in the present illness, which dates from three days old, when the mother noticed a spot over the spine in the upper lumbar region. The patient never could use her legs properly. Did not try to walk or creep until about 4 years of age, and kyphosis was noticed at 2 years of age, when a cast was applied, and at 3½ years Hibb's operation was done. At this time the patient showed all the signs of a definite spastic paraplegia. From 7 to 9 years the patient was at the Children's Hospital, where nerve resection of the obturators was performed to correct the contractures for the marked adductor spasm. The result was unsuccessful. At 9 years decubitus ulcers appeared in both gluteal regions. Also there was a fourth degree burn on the bottom of both feet from hot water bags.

The physical examination shows a very marked spastic paraplegia with atrophy and contracture below the tenth dorsal segments. Marked kyphosis and destruction of the spine centered around the first lumbar vertebra. Sensation to all modalities is diminished below the eleventh dorsal. The reflexes of upper extremities are normal except for the lower abdominals, which are absent. The patellas are active and equal. Achilles active on the right, barely obtainable on the left (marked contractures). Babinski active on the right and left. Decubitus ulcers

on the bottom of both feet and the gluteal folds. Temperature during the stay in the hospital ranged between 97-99. Pulse 80. Chest negative. Radiography normal. Von Pirquet positive.

**Diagnosis**—Pott's disease of the spine, level L (1) L (2) with compression myelitis. Cistern puncture. C. S. F. negative serology and cytology. One and one-half cc. lipiodol was injected, and x-rays on August 12, 1925, showed destructive processes involving 9-10-11-12 dorsal, 1-2-3 lumbar vertebra, fusion and obliteration in the intervertebral discs. Marked lateral curvature to the left. Most of the lipiodol lies in the region of 9-10-11 thoracic vertebra (Fig. X.)

#### CONCLUSIONS

1. Lipiodol should be used as an aid only in localizing or in confirming a spinal cord block.
2. Lipiodol does depict in some cases, not only the level of the lesion, but also its shape and contour.
3. The formation of adhesions following the use of lipiodol, as described by Sharp, was not found in our patients on whom operation was performed.
4. By the use of lipiodol the height of the lesion has been so localized as to permit of the smallest number of laminae to be removed surgically.
5. Lipiodol may be of great help where there are no localizing symptoms of very definite nature. Especially is this true of lesions of the epiconus and cauda equina.
6. Mistakes may easily be made in interpreting lipiodol x-rays if the position of the patient is not noted at the time of taking the picture.
7. We believe that when possible Jueckenstedt's test should be employed before the use of lipiodol. It was found impossible to use it in three of our cases on account of the position and nature of the lesion.

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Fig. X

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#### DISCUSSION

WALTER F. SCHALLER, M.D. (909 Hyde Street, San Francisco)—In the history of medical progress each new diagnostic method is necessarily subject to technical repetition, critical analysis, and evaluation of end results. Such is the history of roentgenography of the spinal arachnoid space. At present lipiodol injections are on trial. The authors of the foregoing paper have brought forth evidence that this lipiodol method is a valuable adjunct to localization in cord compression. Professor Brouwer of the University of Amsterdam, while on a recent visit to San Francisco, expressed the fear that this simple procedure would replace the finer neurological clinical methods which might be neglected. However, experience is accumulating that when definite clinical signs are contradicted by a diffuse and indefinite lipiodol block the clinical signs should be favored. This has been the experience of Ayer and Mixer in the Massachusetts General Hospital, and also in a recent case coming under my own observation. This case showed no obstruction at operation, although there was a diffuse lipiodol accumulation in the dorsal region. Misinterpretation of lipiodol readings may be due to deformities, congenital defect in the canal, membranous adhesions, or even epidural leakage. The presence of a definite cap with complete block is, of course, a reliable guide. The oil is somewhat irritating to the spinal membranes. MacLair reports a case of spinal trauma with paraplegia in which, five months following lipiodol injection, dense recent adhesions formed with cystic inclusions in the arachnoid. This reporter felt that the injection had materially aggravated the pre-existing paralysis. A patient recently observed was injected with a somewhat larger amount of lipiodol than is customary. The oil descended to the dural sac without block, distending the sacral root sheaths, which were outlined by the x-rays. Sacral pain not complained of before the injection was thought to be due to root irritation and sheath pressure.

LEO ELOESSER, M.D. (490 Post Street, San Francisco)—Both the laminectomies reported by Wolfsohn and Morrissey were uncommonly bloody. Both of the exposed tumors were so rich in blood vessels, and had grown through the roots so intimately, that it was not possible to remove either of them. The roots and their membranes were red and intensely hyperemic when they were exposed—the first eighteen—and the second three days after the lipiodol injection. Whether or not the cord and the roots are harmed by this inflammatory reaction to the lipiodol injection, I should be unwilling to say. However, these laminectomies were sufficient to make me believe that lipiodol is not innocuous to the contents of this dural sac. One must decide in each case whether or not to use it, weighing the disadvantages of the inflammation it may and does cause against the advantages of a more accurate localization. Until it has been further proven harmless, I think it should not be used regularly in every suspected spinal canal block.

**Hoyt's Protein Cereal Omitted from N. N. R.**—Hoyt's Protein Cereal is a preparation of gluten in the form of flakes containing protein, 78 per cent; fat, 1 per cent, and starch, 4 per cent, which is manufactured by the Pure Gluten Food Co. (New and Nonofficial Remedies, 1926). The Council on Pharmacy and Chemistry reports that objection was made to the claims made for this product in 1925. In June, 1926, the Council received a circular containing misleading and unwarranted claims essentially similar to those to which objection had been made previously; therefore, the Council rescinded its acceptance of Hoyt's Protein Cereal and directed its omission from New and Nonofficial Remedies.—*Journal A. M. A.*

There may be wisdom in a multitude of counselors, but it is only in one or two of them.—Huxley.

### MOVABLE KIDNEY WITH KINK OR ANGULATION VERSUS URETERAL STRICTURE†

By FRANK HINMAN, MORRELL VECKI, AND CLARK M. JOHNSON\*

(From the Department of Urology, University of California Medical School)

THERE is a group of conditions of and about the kidney and ureter the diagnosis and treatment of which at present is very much mismanaged. Renal movability with kink and ureteral stricture are two of these conditions most commonly reported, but a great difference of opinion exists in the interpretation of the findings indicating each as well as in the best method of examination to obtain these findings.

The clinical effect of movability with kink or of stricture is urinary obstruction with or without pain, or pain without evidence of obstruction. Either of these clinical pictures is commonly complicated by infection. The diagnostic difficulties are increased by the fact that there are cases with good urological evidence of movability with kink without either obstruction or pain and of stricture unaccompanied by pain or obstruction. Infection may be associated or alone present in either of these symptomless groups. In other words, the diagnosis of movability or of stricture as pathological entities is not sufficiently standardized to give uniform findings.

Besides the absence of a satisfactory standard method of examination these cases present great difficulty of differential diagnosis which is of two kinds. First, the differentiation of renal or ureteral conditions from intra-abdominal abnormalities such as appendicitis, cholecystitis, salpingitis, etc., and, second, the differentiation of the different renal or ureteral possibilities; movability and stricture are by no means the only conditions causing urinary obstruction or renal and ureteral pain without evidence of obstruction.

The supravescical causes of obstruction for clinical purposes may be grouped as follows: first, stone; second, renal movability with ureteral fixation by bands, adhesions, aberrant blood vessels, etc.; third, ureteral or periureteral abnormalities, stricture, ureteritis and periureteritis, constriction from out-

† Read before the Urological Section of the California Medical Association, April 26, 1926.

Author's abstract. Reprint of complete paper, published elsewhere, will be sent on request.

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Morrell Vecki (200 Irving Street, San Francisco)—M.D. University of California, 1924; A.B. University of California, 1920; M.A. University of California, 1921. Graduate study: Intern San Francisco Hospital, 1924-25; assistant in urology (U. C. Med. School), 1925-27, inclusive. Present hospital connections: Assistant in urology, U. of C.; assistant visiting urologist, San Francisco Hospital, service of Dr. Frank Hinman. Publications: "Pyelorenoous Back Flow" (Hinman and Vecki), J. Urol., March, 1926.

Clark M. Johnson (1304 Willard Street, San Francisco)—M.D. University of California, 1924; A.B. University of California, 1920. Graduate study: Intern U. C. Hospital, 1924-25; assistant in urology, 1925-27. Present hospital connections: Assistant in urology, U. of C.; assistant visiting urologist San Francisco Hospital. Practice limited to Urology.



### I. Presumptive Evidence

1 History	3 External Genitalia
	4 Urine
	5 Rectal
	or
2 General Physical	Vaginal
	6 Kidney Palpation
	7 Plain Roentgenography
	8 Total Renal Function

### II. Positive Findings

1 Urethral Exploration
2 Endoscopy Urethroscopy
3 Cystoscopy
4 Cystography
5 Ureteral Catheterization
6 Relative Function
7 Pyelography
8 Waxed-tip Catheter

side pressure of neighboring abnormalities; fourth, ureterovesical abnormalities; and, fifth, anomalies of structure, form, termination, etc. In an analysis of 105 personal cases of hydronephrosis ninety had urological evidence of nephroptosis. In the majority of these cases the point of obstruction was apparently at the ureteropelvic juncture and the ptosis of the kidney because of fixation of the ureter at this point brought about obstruction. No doubt in a number of these cases constriction at the uteropelvic juncture was associated with an inflammatory condition at this point and might be considered by many as stricture. In only fifteen cases was stricture of the ureter other than at the uteropelvic juncture diagnosed and in several of these the point of obstruction was at the uterovesical juncture. In none of these fifteen cases was the hydronephrosis of size. During the same period that these cases of hydronephrosis due to movability and kink or to stricture were seen, there were seen 159 cases of hydronephrosis due to other types of supravescical obstruction.

The conditions causing pain without evidence of obstruction may be any one of the above five groups, but there is also an important additional group, six, the perirenal or capsular abnormalities, which are a frequent cause of renal pain. The pain in these obscure cases may be capsular, pelvic or ureteral. The innervation of the capsule, renal pelvis and upper ureter is wholly sympathetic, whereas that of the lower ureter is parasympathetic and this anatomical fact should be utilized not only in differen-

tial diagnosis, but application of treatment. In the recognition of the cause of obscure renal and ureteral pain all possibilities of necessity must be kept in mind. Of these the periodic emptying of uric acid crystals has been emphasized by Beer as a frequent cause of renal and ureteral pain. All urologists recognize that the x-ray fails to show small ureteral stones in 15 to 20 per cent of cases, and these two facts show the importance of the routine use of waxed bulb catheters for diagnostic purposes.

Great care and judgment is required in the recognition of movability with ureteral fixation as a cause of abdominal pain. This particular group has occasioned most of the mistakes in the past in the way of treatment, many gall bladders and appendices having been removed without giving relief and many nephropexies having been performed in vain. The capsular conditions causing renal pain are often quite difficult to recognize, and yet there is no doubt that there are certain perirenal and capsular abnormalities which cause renal colic. In the majority of these cases the pain is localized and tenderness in the kidney region is elicited on palpation. These cases are completely relieved by simple decapsulation. Borasch in Germany has reported six cases of this type of renal colic. In our series of 308 cases there were 166 cases of nephralgia due to nephroptosis with angulation without evidence of hydronephrosis and thirty-seven cases of ureteral stricture without evidence of obstruction. In a number of these cases of stricture relief by ureteral dilatation was absent



altogether or only temporary so that the diagnosis had to be revised later.

**The Examination**—It is particularly necessary in the dual differentiation of these obscure cases that a complete routine study be made. The following chart outlines such a procedure divided on the lines of search for presumptive evidence preliminary to instrumental study.

The most important of the steps of examination for presumptive evidence so far as this particular group of cases is concerned are the history, the examination of the urine and kidney palpation. Detailed study of the pain, its character, location, radiation, duration, etc., is of the utmost importance. Disturbance of urination rarely is a factor, but often complicates the picture because of the secondary incidence of infection. An examination of the urine is of importance because of the relation of pus, blood and the urinary reaction with uric acid crystals as a factor in the causation of pain. Kidney palpation is important in those cases where tenderness is elicited or pain reproduced by bimanual palpation and in the determination of the degree of renal movability and kidney size. Of the steps for obtaining positive findings the use of the waxed bulb and the ureteropyelogram are the two most important for differential diagnosis. For the purpose of diagnosis the waxed bulb cannot safely be replaced by the type of woven bulbs now on the market for the dilatation of ureters. In the diagnosis and recognition of obscure stones or accumulation of crystals in which negative x-rays have been obtained the waxed bulb by the evidence of scratches is a positive means of diagnosis. A difference of opinion exists as to the value of a hang in the diagnosis of stricture, many regarding such a hang as evidence of stricture, whereas others believe that temporary spasm or one of the points of the natural ureteral narrowing would give such a hang. Obstruction to the insertion of a catheter cannot likewise always be interpreted as due to ureteral obstruction or constriction, as the catheter tip may so engage on the mucous membrane because of redundancy or fold as to be obstructed.

The findings on ureteropyelography are also subject to marked differences of interpretation as well as method of use. The picture may be taken in the Trendelenburg, prone or the upright position and with the catheter end in the kidney pelvis or at some portion of the ureter. In many cases the ureteropyelogram obtained differs according to the position of the patient and of the catheter tip. A safe routine as regarded by the majority is to take a pyelogram with the catheter tip in the pelvis and the patient in the prone position followed immediately by the ureteropyelogram after the catheter tip has been withdrawn into the lower third of the ureter and the patient placed in the upright position. These two pictures would show changes in ureteral or pelvic outline as well as changes in position of the pelvis and ureter in relation to each other that would occur between the prone and upright stance. In either of these technical procedures the waxed bulb or ureteropyelography, the reproduction or nonreproduction of the pain of which the patient complains is of considerable diagnostic significance,

although in obtaining this information care is required not to too forcibly fill the ureter or pelvis as to set up a too severe reaction. It is frequently found that the patient's opinion as to the character of pain caused by the waxed bulb exploration or the ureteropyelography is unreliable, although usually in these cases the complaint itself is too frequently vague and it is in these instances of indefinite evidence both urologically and on the statement of the patient that care in coming to any definite conclusion must be exercised.

The outstanding conclusion, from an analysis of these 264 obstructive and 308 painful conditions without obstruction, is the adoption of a universal routine method of examination which will lead to a more uniform manner of interpretation of the findings. It is only on the basis of exact diagnosis that improvement in the results of treatment can be expected.

## CEREBROSPINAL RHINORRHEA

### REPORT OF A CASE

By BERTRAND S. FROHMAN, M. D., *San Francisco*

DISCUSSION by Edward C. Fabre-Rajotte, *San Francisco*; George Piness, *Los Angeles*; Oscar Tobriner, *San Francisco*; Merwyn H. Hirschfeld, *San Francisco*.

LOSS of spinal fluid through the nose is sufficiently interesting and rare to warrant an occasional review of the subject.

Halliburton,<sup>1</sup> St. Clare Thomson,<sup>2</sup> and Loftus,<sup>3</sup> have contributed in the past practically all that we know today of cerebrospinal rhinorrhea. In the first published case, King<sup>4</sup> noted the escape of a clear fluid from the nose. Tillaux<sup>5</sup> in 1877 reported the first case in which the fluid was examined. Up to 1922 there were reported: undoubted cases, 23; probable cases, 14; possible cases, 8. To these may be added two more: Schwartz<sup>6</sup> and Olmos.<sup>7</sup>

### ETIOLOGY

Trauma, definitely established in St. Clare Thomson's monograph reviewing twenty-one cases. Theories: brain tumor, syphilis, congenital defect (Loftus), hydrocephalus internus. Incidence: Sex, alike; age, 18th to 65th year. Pathology: Only four cases with necropsy. No localized primary pathology found. It is not definitely established by what route the fluid passes into the nose. The theory of hydrocephalus internus was not supported by post-mortem findings. Symptoms: escape of a clear fluid from the nose, intermittent, but usually continuous. Relation of position of head to flow. When the head is bent forward the fluid escapes. When sitting upright or lying down the fluid escapes into the throat. Flow increased by strain (laugh, sneeze, or cough), exercise or emotional changes. Unilateral, majority have left-sided flow. Onset gradual, a few drops escaping at first. Amount, from a few drops to an average of one litre in twenty-four hours. Character of fluid clear, limpid, odorless, tasteless, or slightly salty. Does not stiffen or discolor handkerchief after drying. Headache, mild to severe. Increased when flow is diminished or during intermission of flow. Headaches are relieved when the fluid escape is free.

Eye symptoms, characteristic of increased intracranial pressure: present in twenty-three cases, more marked on side of flow. One case reported by Meyer,<sup>8</sup> the patient was blind until the flow started. Optic neuritis (twenty cases) visual field contractions. Alteration in color tests, enlarged blind spot, swollen discs, retinal hemorrhage, optic neuritis—to atrophy to blindness (five cases). Cerebral symptoms: Reported in majority of cases, but not characteristic of any one disease. Head pains, epileptic attacks, generalized convulsions, unconsciousness, vomiting (never projectile), lethargy, delirium, vertigo, facial paralysis, hemiplegia with optic nerve involvement, psychic and emotional changes.

**Diagnosis**—Made upon: Dripping of a perfectly transparent fluid from the nose. Reaction, faintly alkaline. Odorless, tasteless or slightly salty. Specific gravity low—1.005-1.010. Not viscid. No precipitate on addition of acetic acid. On boiling, not more than a trace of serum albumin and serum globulin is present. Reduced by Fehling's (if fresh specimen, as glucose ferments and is destroyed quickly). Does not cause handkerchief changes, already referred to (Stressed by Thomson as a very important diagnostic point, due to the absence of mucin). Unilateral flow. Central nervous system symptoms. Relation of position of head to flow. Normal cell count.

**Differential Diagnosis**—From: nasal hydrorrhea; dropsy of antra or frontal sinus; water inspired and retained in sinuses; vasomotor neuritis and rupture of nasal lymph tubes. Examination of the fluid establishes this differential diagnosis (Loftus).

**Prognosis**—Unfavorable, due to the danger of meningoencephalitis; duration in cases reported, from fifty-nine days to twenty-nine years.

**Treatment**—The condition is aggravated by attempting to check the flow. Lumbar puncture, drugs and intranasal manipulations are of no value. The latter is definitely contraindicated.

#### CASE REPORT

A single, American woman, age 25, was first seen October 29, 1925, complaining of headache, uncontrollable crying and nervous attacks. In the absence of positive physical findings, the diagnosis was hysteria. This was the second of a similar attack, the first occurring in August, 1925, while a student at the University of California. At that time she had severe head pains, mild convulsive seizures, and could not control her emotions. Sedative therapy and bed rest was ordered.

She reported for more thorough investigation November 11, 1925. Present complaint: Very nervous. Depressed. Has had suicidal thoughts. Emotionally very unstable. Sense of smell diminished. Constant headache, referred to the left supraorbital and temporal regions, aggravated by reading. Cold extremities and backaches. Thinks she has sinus trouble. Past history: Measles and pertussis. Frequent attacks of bronchitis. Severe attack of influenza in 1920. Convalescent from December, 1920, to May, 1921. Sinus Complications. Tonsillectomy and adenoidectomy, 1914. Appendectomy, 1918.

**Accidents**—January, 1925, fracture of left clavicle sustained when horse which she was riding fell. February, 1925, injury to back while horseback riding. She was thrown into a poor position when her mount jumped. Backaches date from this time. March, 1925, kicked by an unshod horse in the left supraorbital region; not rendered unconscious, but stunned. Contusion and ecchymosis of left temporal region following the accident. May, 1925, a severe twisting of upper cervical region

while wrestling with a girl chum; since then extreme lateral head movements are painful.

**Habits**—Out-of-door type: cattle-range riding, tennis, swimming, etc. All functions normal. Familial; negative except for element of dissension between divorced parents which may have some bearing on psychic condition. Habitat: From birth to eighth year, in Wyoming. Eighth to twentieth year, lived in various parts of the United States. Twentieth to twenty-fourth year, in Hawaiian Islands. Residence in California for past six months.

**Present Illness**—Headaches, emotional and nervous symptoms related to influenza in 1920, and trauma in 1925. At this time I was confident of the existence of some psychological factor emotional in type. This was attributed to a love affair terminating in a broken engagement.

**Physical Examination**—A well-nourished young woman about 25 years of age, not appearing acutely ill. No positive findings except: Teeth—Upper right, first molar, upper left, second bicuspid, devital. Negative for apical disturbances. Some tender pea-sized right, posterior cervical adenopathy. Right rectus scar. Uterus, first degree retroflexion. Roentgen findings: Slight graying frontal and maxillary sinuses, left. Lateral and basal views of skull negative. Sella turcica normal. Chest, old fracture left clavicle. Heart shadows normal. Lung fields, some calcification of parenchyma of left lower lobe. Spine and pelvic plates negative. Eye, ear, nose, and throat: Investigation was advised and reported as negative except for a plus 50 refractive correction by Dr. Fabre-Rajotte. Fundus clear. Disc, retina, and vessels normal. Clinical laboratory findings: Hemoglobin, 75 per cent; red blood corpuscles, 4,400,000; white blood corpuscles, 6,400. Differential, Wassermann, urine, nothing suggestive.

My tentative diagnosis at the time of the examination was psychic disturbances, probably due to influenza and either encephalitic in nature or activating a potential psychopathic tendency; emotional factor, love affair with subsequent reaction; environmental, change from semitropical to city life and strenuous studies; refractive error and sinus lesions; low grade anemia.

**Subsequent Notes**—November 15, 1925, she awakened at 9 a. m. with a severe headache referred to the entire right side. There was nausea, but no vomiting. She slept until 1 p. m. Upon awakening she was free from head pains, but was lethargic and weak (no previous medication). At 4 p. m., on leaning forward, she noticed the escape of a clear, slightly salty tasting fluid from her nose. On November 16, she felt ill, no pain, but fluid again escaped in the evening. November 17, she was able to collect 2 cc. of the fluid in a sterile tube. This was approximately one-half of the total amount that escaped. November 18, while washing her face a fairly large amount of fluid escaped.

Since the first fluid escape was discovered she has been able to collect small amounts daily. Repeated examinations by Wassermann and for sugar failed to give a clue to the character of the fluid. This was due probably to the fact that the specimen was not fresh. The patient was examined by Oscar Tobriner, who punctured the left antrum, applied slight suction before irrigating, with negative results. A fresh specimen of the fluid was examined by H. Oliver, who reported: A clear, odorless fluid, specific gravity (insufficient amount), positive for Fehling's—25 mg. to 100 cc., 6 cells per mm., faint trace of serum albumin and serum globulin on boiling. No precipitate on addition of acetic acid. Doctor Oliver stated that the specimen had all the characteristics of cerebrospinal fluid.

**Final Diagnosis**—I believe this to be a true case of cerebrospinal rhinorrhea.

#### CONCLUSION

Patients with an escape of fluid from the nose with no evidence of intranasal disturbance, acute or chronic, should be investigated to identify the character of the discharge.

Drugs, lumbar punctures, and intranasal manipu-

lations are of no value in cerebrospinal rhinorrhea, and the latter is contraindicated.

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#### DISCUSSION

EDWARD C. FABRE-RAJOTTE, M.D. (516 Sutter Street, San Francisco)—The very paucity of our knowledge of cerebrospinal rhinorrhea makes the subject intriguing; for anyone who reads a case history such as this and other similar ones in the literature, must feel that a great deal of interesting pathological physiology is being enacted behind the scenes. Are these headaches similar in nature to the often unexplained headaches of patients who do not have cerebrospinal rhinorrhea? In other words, is the escape of fluid simply a rare incident in a common disorder? May not the essential condition be a cerebrospinal hypertension rather than a developmental or other local defect as most theorists have suggested, and then may not the rhinorrhea merely be comparable to the occasional hemorrhage of the patient with vascular hypertension? To answer these questions we should need to know much about the cerebrospinal fluid pressure of these patients *before* the onset of the rhinorrhea (which presumably would thereafter serve as a check to any marked increase in pressure). Such observations, of course, are not available.

There is practical value in thus recognizing the limitations of our knowledge; and this is well illustrated by Doctor Frohman's report. Before the onset of the rhinorrhea the patient might easily have been labeled "functional," "psychoneurotic," etc., which, as events proved, would have been unfair, and it is well when we make such diagnoses to reflect on the ever present possibility of an unknown organic background.

GEORGE PINES, M.D. (1136 West Sixth Street, Los Angeles)—In over 1500 cases of hay fever studied in this clinic, we have recognized no case of cerebrospinal rhinorrhea.

Two patients with this malady have been reported to us by a colleague, one of these of twelve years' duration, death being due to pneumonia; the other of eight years' duration and still living. In neither patient was the etiologic factor or underlying pathology determined.

In some patients the conditions may be associated with pituitary neoplasm if the tumor has decompressed itself through the sphenoidal sinus.

OSCAR TOBRINER, M.D. (350 Post Street, San Francisco)—The most important medical points elicited in the study of Doctor Frohman's patient are, the taking of an exact and thorough history and the laboratory examination of a fluid discharged from the nose, of the characteristics described.

The reason for the above is that the first gives the clue to the diagnosis, and the second establishes the diagnosis. By such an investigation all diagnostic intranasal procedures are prevented, for with the establishment of the diagnosis also comes the positive dictum—no operative interference.

Only laboratories with proper equipment for spinal

fluid examinations should be sought, and only pathologists well trained in its examination should be consulted.

The antrum operation was only done because the first report of the examination of the spinal fluid was negative, explained, as Frohman suggests, by a nonfresh specimen.

I would advise two or even three examinations when the report is negative in the face of suggestive clinical evidence. Had I waited for the subsequent report, I should not have performed an antrum puncture, as even that procedure I consider contraindicated.

I congratulate Frohman on his excellent presentation of this vague and rare pathological condition.

MERVYN H. HIRSCHFELD, M.D. (516 Sutter Street, San Francisco)—Doctor Frohman's very interesting case report leaves us in doubt as to the etiology which, after all, is an important consideration. Numerous x-rays taken from every angle revealed no abnormality. A ventriculogram might give valuable information, but one hesitates to suggest such a severe diagnostic procedure save as a last resort.

Had the injury of March 15 produced a basal fracture, the spinal fluid should have escaped before November 15. Other factors must have been acting to produce the headaches, convulsive seizures, psychic disturbances and impairment of smell in the left nostril, and hysteria is hardly to be considered in a patient presenting such a definite clinical syndrome. As Frohman indicates in his resumé of symptoms accompanying the discharge of spinal fluid from the nose, it usually occurs with increased intracranial pressure, and this in adults most frequently is due to brain tumor. More rarely a frontal tumor may erode the intervening structures and establish a fistula directly.

This patient will require repeated neurological examinations at short intervals. The symptomatology is indicative of a left frontal lobe lesion.

Cerebrospinal rhinorrhea should be regarded as a symptom rather than a clinical entity *sui generis*.

**Five-Year End-Results in Treatment of Cancer of Uterine Cervix**—In ten years Frank W. Lynch, San Francisco (Journal A. M. A.), has treated nearly 250 cancers of the cervix. One hundred and ninety-two of these were treated with radium alone, or by operation, usually with preliminary or postoperative irradiation. The roentgen ray has been used as an adjunct in some of the cases since 1923. One hundred and fifty of the 192 have passed a three-year period of observation. The five-year series consists of 107 patients, treated between March, 1916, and March, 1921, with radium or surgery. Of fifty-nine inoperable and borderline cases in which treatment was by radium only, fifty-three are dead, fifty-one of these of cancer. Forty-seven died within three years. Only five are alive and well, after five years. In twenty-three cases radium was used for prophylaxis or for recurrence after nonradical operations elsewhere. Twenty-three of these patients are dead of cancer, twenty-one died within three years, two died after three or four years. None are alive and well after five years. Lynch concludes that no method has yet cured 50 per cent of cervical cancers. The ordinary panhysterectomy has no place in the treatment of cervical cancers. Better results will be obtained by irradiation in all cases that are not suitable for truly radical surgery. The literature does not indicate that radium is likely to cure in more than a scant majority of the so-called operable cases. There is a chance for improving the total number of cures by operating in radically early cases in which preoperative radium and possibly postoperative deep roentgen-ray therapy have been used, provided the surgeon can perform his operations with a limited mortality.

It is rare to find a physician who can converse well on any subject outside his immediate professional interest. This means a loss both to the physician and the community. The man who has no interest outside his trade or profession is poor indeed. He misses that inward satisfaction which comes from the full use of all his faculties. As a practical point, he will be a better physician for a broader background.—Editorial, Rhode Island M. J.



## THE USE AND VALUE OF CARBOHYDRATE TOLERANCE TESTS IN THE DIAGNOSIS OF DIABETES MELLITUS

By ALBERT H. ROWE AND HOBART ROGERS \*

DISCUSSION by *Bernard Smith, Los Angeles; H. C. Shephardson, San Francisco; James W. Sherrill, Ja Jolla; H. Gray, Santa Barbara.*

THE carbohydrate tolerance test has, since its inception, been of steadily increasing importance to the medical profession. The scientific and clinical studies relating to this subject are too numerous and varied to be reviewed here. Three comparatively recent papers by Gray, John, and Mosenthal, have well summarized the literature and present clinical opinions based on a considerable experience. The important features of these will be briefly noted.

Gray has presented a statistical study based on the results of some 900 tests reported in the literature. He has constructed a composite curve from the findings on 300 normal persons who received the usual test load of 100 grams of glucose, and finds

the average fasting value is about 90; the average peak is about 140 at 30 minutes following the meal. The curve returns to the fasting level at three hours. Individual instances of high values were notable. There were values up to 160 for the fasting level, 280 for the peak, and 170 at the end of three hours. Of the three-hour values 41 per cent were above the fasting level. Glycosuria was noted in 40 per cent of 129 cases in this group in which a urine examination was recorded. Considering test loads other than 100 grams of glucose, Gray concludes that the curves obtained following the ingestion of from 25 to 200 grams of glucose show no greater variation than do individual curves on the same test load. The possibility that the tolerance of even mild diabetics may be injured by test loads of 100 grams of glucose leads Gray to recommend that a test meal of two shredded wheat biscuits and three ounces of milk be used at least as a preliminary test, i. e., essentially a 50-gram starch meal. In conditions neither normal nor diabetic he finds that hyperthyroidism, pregnancy, renal glycosuria, and hepatic disease have abnormal curves suggesting diminished carbohydrate tolerance. The curves in hyperthyroidism he found higher than normal, but not so much so as is usually stated. Hypothyroidism and pituitary disorders appeared to be without characteristic effect. Tolerance curves in diabetics, he finds, may be entirely normal, but are nearly always characterized by a high peak and a delay in returning to the fasting level. The height of the curve seems especially significant to him, for he recommends that if only two blood sugar estimations can be made that the fasting and the half-hour period be selected.

John, in reporting a second series of carbohydrate tolerance tests in 100 consecutive cases, says that the most significantly abnormal feature a curve may have is a failure to return to the fasting level within three hours. The absolute height of the curves he considers of little significance. He is so impressed with the significance of prolongation of the curve that he states "that sufficient practical information may be secured by a test of the fasting blood sugar and a second test made three hours after the patient has received 100 grams of glucose by mouth." Lack of absorption from the intestine as a cause of a delayed rise and prolonged curve seems to him of little importance clinically.

The indications for carbohydrate tolerance testing are listed by John as (1) repeated glycosuria; (2) a fasting blood sugar level of 130 or over; (3) obesity; (4) a family history of diabetes; (5) a blood sugar of more than 120, three hours after the last preceding meal. The chief service of the test is, he believes, to make possible the recognition of mild and unsuspected diabetes and prediabetic states.

Mosenthal feels that the use of a definite test load of 100 grams of glucose for all adults without proportioning the load to the weight of the patient is entirely satisfactory. Granting the possibility of exception, he believes that the fasting blood sugar level should not be over 120, the peak value should not be over 160, and the duration should not be greater than two hours. He divides carbohydrate tolerance curves into five types: (1) low; (2) nor-

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Hobart Rogers (242 Moss Avenue, Oakland). M. D. Indiana University, 1922. Graduate study: Research Fellow Indiana University, 1922-23; Internship Alameda County Hospital, Alameda. Present hospital connections: Providence Hospital, Oakland; Alameda County Hospital, Alameda. Practice limited to Internal Medicine since 1924; especially interested in Cardiology and in Diseases of Metabolism.

mal; (3) high; (4) prolonged; (5) high prolonged. A wide variety of conditions, including hypothyroidism, arthritis, nephritis, and cancer, give high or prolonged, or high prolonged curves suggestive of diminished carbohydrate tolerance. Of what value then is the test? Discounting prediabetic and mild diabetic states in which there are presumably from time to time irregular fluctuations from normal to abnormal and vice versa, Mosenthal finds that "every definite case of diabetes exhibits a high prolonged curve." A normal curve is therefore of great value in establishing a negative diagnosis. Cases showing glycosuria without other symptoms of diabetes but with tolerance curves either high, or high and slightly prolonged, have been observed by him to remain free from all other signs of diabetes for years—in one instance five, and one instance thirteen years. Mosenthal is therefore unwilling to make a diagnosis of diabetes on the presence of glycosuria and a high prolonged type of sugar tolerance curve, unsupported by other clinical evidence.

That a normal fasting blood sugar level does not rule out diabetes has been pointed out many times, but never better illustrated than in the following two cases. The first was a woman of 49 years who had slight but definite polyuria, polydipsia, pruritus,

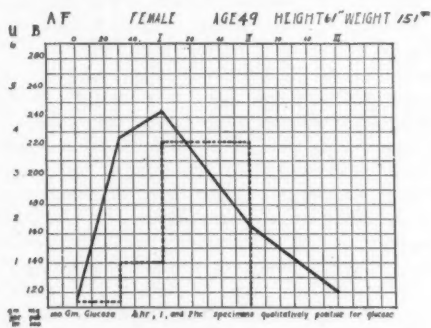


CHART I

and loss of weight. Her tolerance curve was characterized by a high peak (243), which was also delayed. The blood sugar was, however, near the fasting level at the end of three hours. Had only two blood sugar readings been made, one fasting and one three hours after the test meal, as suggested by John, the abnormal character of this curve would have been entirely missed.

The second patient was a girl of 15 years who had weakness, loss of weight, lack of ambition, and small recurrent infections about the face. Her tolerance curve is also characterized by a very high and much delayed peak (327) at two hours and a blood sugar three hours after the test meal only a little below the maximum recorded value. Had only two blood sugar readings been made, one fasting and another one-half hour after the test meal, as suggested by Gray, the abnormal character of this curve would have been entirely missed.

This curve illustrates also the danger in using a test load of 100 grams of glucose routinely in all cases. A hyperglycemia of such degree certainly places a severe strain upon the islet tissue, and one

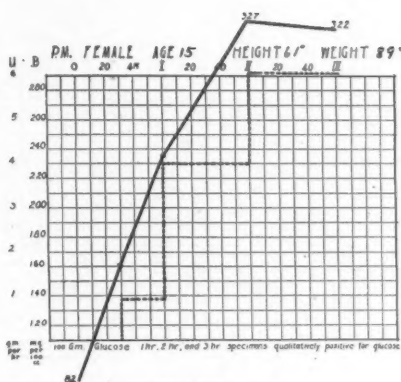


CHART II

could reasonably expect a reduction in tolerance as a result.

In a study to be reported in detail elsewhere<sup>1</sup> we have compared the curves obtained following the shredded wheat and milk meal suggested by Gray, with those obtained following the standard load of 100 grams of glucose, in sixteen normal and four nondiabetic persons. We believe that our series of normal and nondiabetic persons is a more carefully selected group than others that have been reported.

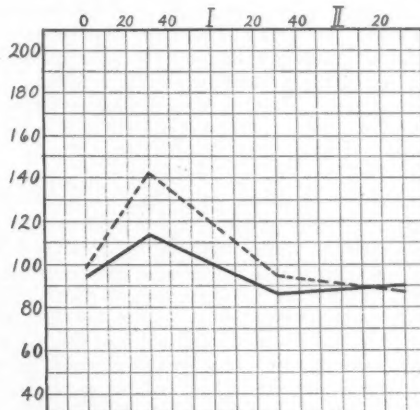


CHART III

They were mostly young college students from the University of California who had no medical complaints whatsoever. Curve III is a composite of the twenty. This curve shows that a shredded wheat and milk meal is a sufficient load to induce a glycemic response in normal people. The elevation of the blood sugar at the 30-minute interval following the shredded wheat meal is less than half that found following the glucose, and the entire curve is of shorter duration. Compared with the composite curve given by Gray, our composite curve shows the following features: (1) our curve starts slightly higher (98 instead of 90); (2) the peak is practically the same (142); (3) our curve has returned

<sup>1</sup> Rowe, A. H., and Rogers, H.: A Study of Carbohydrate Tolerance in Normals and Nondiabetics, Archives Internal Medicine, December, 1926.

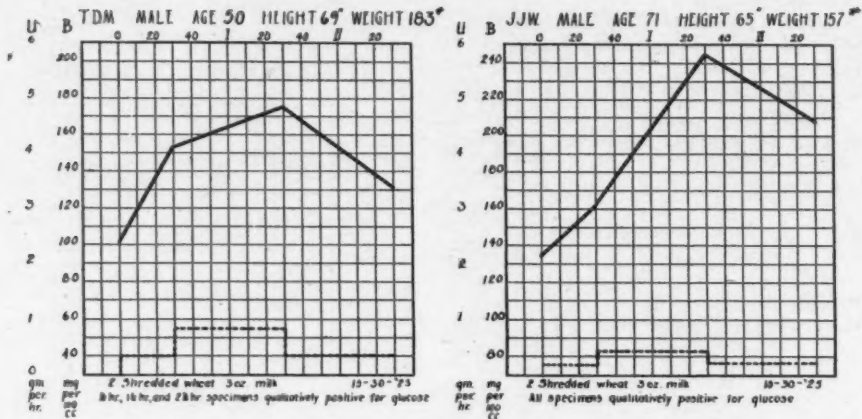


CHART IV

to the fasting level within one and one-half hours, falling to 88 at two and one-half hours. Gray's curve returns to the fasting level in three hours, being distinctly above the fasting level at one and two hours.

That the shredded wheat and milk test meal is a sufficiently large test load to elicit a diabetic type of response in fairly mild cases, is shown by the following two curves. The first is from a physician in whose urine sugar was found at a life insurance examination. His only symptoms were weariness, polyuria, and failing vision, and were so mild that he had not noticed them until his attention was directed to them. He was, however, somewhat overweight. With undernutrition and a small amount of insulin at first, his condition has greatly improved. The second case was referred to us by Doctor Miller of Porterville. This man had had glycosuria for seven years with practically no symptoms of diabetes. When seen by us his chief complaints were weakness, drowsiness, and pain about the heart. The curve following the shredded wheat and milk meal was distinctly of the diabetic type. He improved subjectively with diet and insulin. At the same time we noted that glycosuria was always present, and we determined to find his renal threshold. In the morning, before his breakfast, we gave

him 24 units of insulin and had him urinate every 15 minutes. When the urine sugar had fallen to a very faint trace with Benedicts, we took a blood sample. The next urine test was clear, and as the patient was beginning to feel weak, we gave him some carbohydrate. The blood contained 65 mg. glucose per 100 cc., which was the threshold level for this patient. Here we have evidently a case of diabetes mellitus complicated by so-called renal diabetes.

We have, however, in the following two cases, evidence that the shredded wheat and milk test meal is not a sufficient test load to demonstrate slight reductions in tolerance or prediabetic conditions. The first case is that of a college student aged 30 years who volunteered for our study of carbohydrate tolerance in normals. Other than some nervousness and some difficulty with his studies, he was having no trouble. His tolerance curve with the shredded wheat and milk meal was normal, but three days previously with 100 grams of glucose a slightly high and definitely prolonged type of curve had been secured. Moderate carbohydrate restriction was prescribed. After five weeks a second tolerance test with 100 grams of glucose gave a curve entirely within the accepted normal limits, though more prolonged than the composite of our normal curve.

The second case is that of a man 45 years of

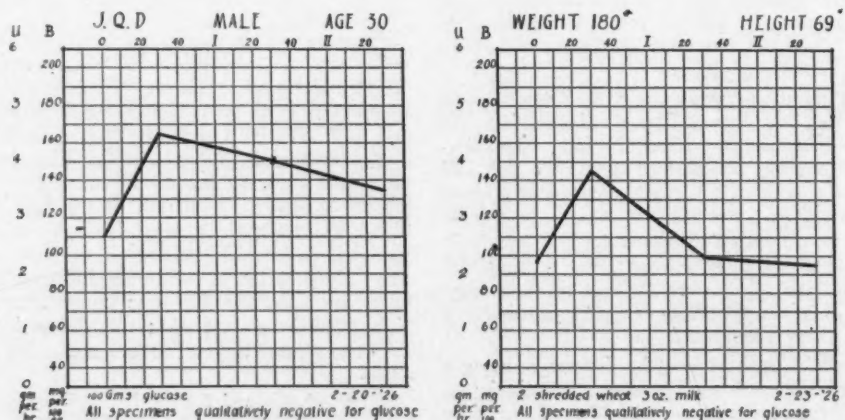


CHART V



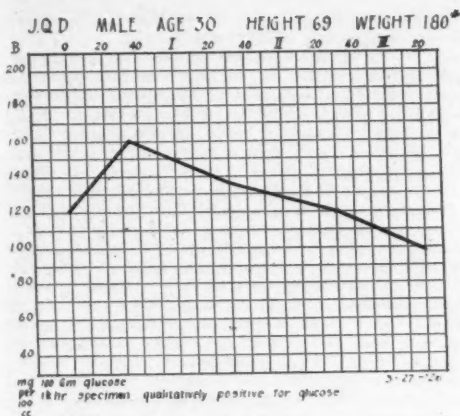


CHART VI

age who came to us because of glycosuria, discovered during the treatment of an urologic condition. A tolerance test with 100 grams of glucose gave a very definitely high, prolonged type of curve. One week later a test with the shredded wheat and milk meal gave a curve definitely high, but less definitely

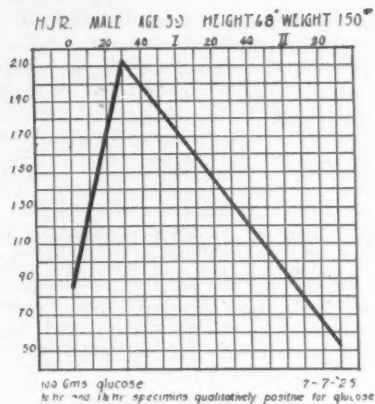


CHART VIII

The diagnosis of diabetes, we believe, depends now almost entirely upon blood sugar estimations, and to a considerable extent upon carbohydrate tolerance testing. We agree with John as to the indications for tolerance testing, namely: (1) repeated glycosuria; (2) high fasting blood sugar level (3)

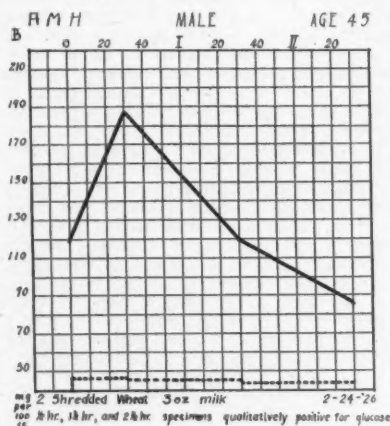
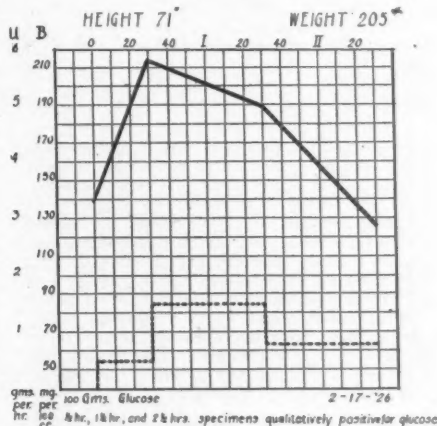


CHART VII



prolonged, which would probably have been termed of itself inconclusive.

The cause and significance of renal glycosuria are problems still undecided. The accompanying chart shows the tolerance curve of a man aged 39 who was referred to us because of glycosuria discovered at a life insurance examination. He had no symptoms of diabetes, but did have at irregular intervals symptoms suggesting duodenal ulcer. His x-ray study showed hypermotility of the stomach, an irregularity of the cap, and an indefinite shadow in the gall bladder region. The curve we interpret as nondiabetic because the peak, although high (212), is not delayed, and the return to the fasting level is rapid. The depression below the fasting level here shown (55) is greater than is commonly found. We suggest that the curve may be characteristic of hyperassimilation. The patient is being kept under close observation, and so far has shown no tendency to become diabetic.

obesity; (4) positive family history; (5) blood sugar above 120 mg. three hours after the last preceding meal. Neither a normal fasting blood sugar level, nor a normal level three hours after the last preceding meal, rules out diabetes. Neither is a fasting blood sugar level above 120 sufficient for a diagnosis, though all such must arouse suspicion. We regard prolongation as the characteristic feature of a diabetic curve, and do not interpret curves as diabetic unless this feature is manifested either by a delayed peak or by a failure to return to the fasting level within two and one-half hours. We feel that partial tolerance tests, with only two blood sugar estimations, are likely to be misleading, and should not be used. We have yet to see a definite case of diabetes with a normal curve. The possibility of abnormal curves in conditions other than diabetes does not ordinarily cause any trouble in diagnosis.

Our clinical experience with adults has not indi-

cated a need for proportioning the amount of glucose given to the weight of the patient. Should such fine calculation be necessary, it would undoubtedly also be necessary to make allowances for the known irregularities in absorption. Curves obtained following the shredded wheat and milk meal should be compared with the response of normals to the same test load. Our results would indicate the duration should not be greater than one and one-half hours. We believe that the shredded wheat and milk meal proposed by Gray should be used, at least as a preliminary, in all definite cases of diabetes; but we believe also that it is too light a load for clear-cut results in many of the mild cases, and that 100 grams of glucose must remain the standard test load for the study of such cases.

#### DISCUSSION

BERTNARD SMITH, M. D. (1032 West Eighteenth Street, Los Angeles)—The use and value of carbohydrate tolerance tests in the diagnosis of diabetes can be decided only when the technique of the test becomes sufficiently uniform to justify deductions from a large mass of accumulated material. It is wise to emphasize even more strongly than have Rowe and Rogers that the tolerance test does not differentiate from diabetes those conditions which show variations from the strict normal blood sugar curve. Dietary restrictions may be necessary in any condition that causes an excess strain or diminution of the glucose tolerance, but there is danger that the lists of complete diabetic cures reported will be erroneously increased if no more than a variation from the normal in the blood sugar curve is taken as the criterion in diagnosis of diabetes.

I agree with the present statement that a normal fasting blood sugar may be present in true diabetes mellitus and, also, that a fasting blood sugar may show a value well above 120 mgs. without a justifiable diagnosis of diabetes. Diabetic patients who have given the typical curve of the high prolonged type may later show a change in this response to the tolerance test, with a curve of high peak but with a return to the fasting level at the end of two hours. It is possible that this change in curve type may give information that is of prognostic value. But the full information from any carbohydrate tolerance test can only be obtained when blood sugar estimations are made with sufficient frequency to show the time of the curve peak and the rate of the curve return.

H. C. SHEPARDSON, M. D. (Fitzhugh Building, San Francisco)—Aside from firmly establishing the diagnosis of diabetes mellitus by means of a hyperglycemic blood curve, of almost equal importance is the utilization of the carbohydrate tolerance test in eliminating insulinary deficiency as the cause of an individual's glycosuria. It is quite as heavy and depressing a burden nowadays to carry around the mistaken diagnosis of diabetes as it is to suffer from syphilophobia. It is a fortunate circumstance, therefore, that by means of this test we can conclusively rule out diabetic disease. What this may mean to a patient is well illustrated by the following experience:

A man of 38 years had had in 1916 a severe, undiagnosed fever. At that time a glycosuria was found. His diet was greatly restricted. However, whenever sugar was used in his diet the glycosuria returned. He had none of the cardinal symptoms of diabetes, yet he had been repeatedly told he was afflicted with that condition. In view of the fact that certain other members of his family had had diabetes, he was convinced that only rigid attention to his diet would save him from an untimely death. He came to us for an entirely unrelated symptom, but incidentally desired further information on the progress of his so-called diabetes. Blood sugar curve was absolutely normal. We therefore informed the patient that no diabetes existed and that dietetic restriction was unnecessary, in spite of the fact that he still occasionally had glycosuria. This man had a renal glyco-

suria, and the mental relief he experienced in obtaining this information can hardly be expressed.

One of the greatest values of this excellent paper of Rowe and Rogers lies in the fact that they again bring to our attention the fallacy of attempting to depend on "short-cuts." There seems to be no practical reason, except in rare instances, of curtailing the number of blood sugar determinations, and certainly a better conception of the secretory activity of the pancreas may be obtained if several determinations are made at regular intervals, up to three hours after the ingestion of the test meal, than can be secured from one or two readings. In further substantiation of the necessity of several determinations it has been shown that in contradistinction to Gray's idea as cited in this paper, Martin and Mason (*American Journal Medical Science*, 1917, 50, 153) found in 1917 that the blood sugar in true diabetes may *not* reach its maximum until a period of two hours has elapsed after the ingestion of 100 grams of glucose.

While this paper and its discussion is confined to the blood sugar curve obtained in patients who have a glycosuria, it should be mentioned that a low flat curve indicative of an increased carbohydrate tolerance is frequently associated with hypopituitarism.

JAMES W. SHERRILL, M. D. (The Scripps Metabolic Clinic, La Jolla, San Diego)—The glucose tolerance test has given valuable aid in improving our methods of diagnosis of diabetes. When first introduced it was used principally to distinguish renal glycosuria from true diabetes, but further usage and experience have made the test invaluable in detecting latent and incipient diabetes. Like any other laboratory procedure, extreme caution must be exercised in interpreting the results, keeping in mind that the discovery of hyperglycemia and glycosuria does not necessarily warrant a diagnosis of diabetes. This is especially true in the absence of pre-existing signs and symptoms of diabetes. The finding of a prolonged blood sugar curve with or without glycosuria permits the diagnosis of potential diabetes, but until a large number of such cases are followed over a period of many years, will we be able to draw conclusive evidence as to the true relationship to diabetes mellitus. At the present time sufficient evidence on this subject is not available in the literature. It is noteworthy that a higher incidence of prolonged tolerance curves, frequently accompanied by glycosuria, is found in families of diabetic patients than in nondiabetic families. The test is of practical value, from the standpoint of diabetic heredity. Considering the heredity tendency of the disease, a tolerance test on a relative of a diabetic patient, properly applied and properly interpreted, may serve to detect early diabetes before the onset of marked symptoms.

In a considerable proportion of cases where early diabetes is suspected, the glucose tolerance test may furnish a clue for the clearing up of more or less distressing symptoms. Diabetes need not reach the point of glycosuria to cause symptoms, but in the stage of simple hyperglycemia may be responsible for neuritis, neurasthenia, fatigue, weakness, furuncles, and carbuncles. It is important that persons with such complaints be tested after glucose ingestion, and where there is hyperglycemia relief may be expected from an antidiabetic diet when other measures have failed.

This timely paper of Doctors Rowe and Rogers serves to emphasize the necessity of securing frequent blood specimens when performing a tolerance test. Undoubtedly many diagnoses are missed on account of laxity in this regard. Since knowledge as to the height and prolongation of the curve is essential for diagnosis, at least three specimens should be taken during the test. The half-hour, one-hour and three-hour specimens should be secured, and the urine should be examined at each hour period for at least three hours. Experience has taught us that little dependence can be placed upon the result of a single fasting blood sugar, and conclusions drawn from the blood sugar value at the third-hour period alone are equally unreliable on account of the rapid rise and fall of the tolerance curve in mildly diabetic persons. This experience is well summarized in Doctor Gray's paper: in forty cases of known diabetes the blood sugar was normal before glucose ingestion, and there was prompt return to normal at the three-hour period.

H. GRAY, M. D. (Santa Barbara, California)—At Doctor Rowe's request some comments are offered, with diffidence, and with the hope that the effort to make them concise will not make them seem dogmatic. In the paper cited (*Archives of Internal Medicine*, 31:241, February, 1923), I tried to consolidate the valuable data reported by various students, in small and scattered lots, and endeavored to confine my statements to pointing out in the consolidated tables what seemed significant. This procedure was intended to clarify some questions on which previously general laws had been proposed, based on evidence of so few cases that it should have been regarded as suggestive rather than conclusive. This method of inference from a small series of observations is a traditional weakness of mankind, and even of some of the keenest investigators. The result usually is disagreement between experienced men and, under the circumstances, it seems wise to say nothing except that more evidence is needed. Furthermore, when evidence continues to be piled up to settle a question that, as far as I can see, has been pretty generally agreed upon since Jacobsen in 1913 (to judge at least by reading the extensive literature) it seems opportune to restate our problems more specifically.

Question 1. When a carbohydrate tolerance test seems desirable, how many and which blood sugars should be regarded as standard? That the peak of the curve may occur at an interval varying from fifteen minutes to three hours has, of course, been known to anyone familiar with literature since Jacobsen (*Biochem. Zts.* 56: page 488, Table IX, Case 4, 1913).

Ten years later my paper took for granted that these facts had become generally known and were generally interpreted to answer Question 1 thus: Half-hour, one-hour, and three-hour samples (practically as stated by Sherrill in his discussion). This question seems to me to be in a settled state today.

Question 2. How much value is the fasting blood sugar? There are still today several answers:

1. That it is most important of all (Holst: *Acta Scand. Med.* 63, Fasc. I, 1925-6).

2. That it is very important (evidence is given in my paper and also in *Medicinal Clinics of North America*, 7: 675, November, 1923).

3. That little dependance can be placed upon it. (Sherrill and, in deed, a great many others.)

One admits that many diabetics have normal fasting blood sugars, but we have to remember that some non-diabetics have high and long curves; that some diabetics have normal curves; hence even curves are fallible, and that every general rule must be applied with reservation proportionate to the frequency of exceptions known to occur in that particular law. Clearly more evidence is necessary.

Question 3. When need the urine be examined? Opinions agree pretty generally: Each time blood is taken, to determine grams per hour sugar output.

Question 4. When are tolerance tests desirable? There are at least three opinions:

1. Seldom, because measured diets and urinary tests can be made to suffice (Joslin, Woodyatt), and because if the physician gives the patient a huge drink of sugar the patient not so rarely accepts that example as a precedent sufficient to justify an occasional sugar spree (Joslin).

2. Occasionally when low tolerance is suspected, and when adequate criteria are apparently not available with less drastic procedure (this policy is followed by physicians who can conveniently not be listed here, owing to the difference of opinion as to which criteria are adequate to recognize the diabetic or prediabetic state. To illustrate, here is one opinion (in which I am not alone) that falls within this group: The danger of using a test load of a hundred grams of glucose (Joslin, Kawachi, Tachau, Martius, Allen, Salomon, Ohler, and the graph of the girl of 15 given by Doctor Rowe and Doctor Rogers), together with existing evidence of normal curves in diabetics who later show frank diabetes (Bailey's case M. B. and Strause's case C. F., cited in 1923 paper; Doctor Shepardson's case may easily fall into this group when it has been followed for five years or more) should

lead the diabetician not to harp on a pathognomonic test, but to integrate all clinical data.

For example, according to this view, one would treat a patient as diabetic without demanding a tolerance test when the following symptoms are present: Glycosuria of, say more than 15 grams per twenty-four hours, coupled with complaints such as loss of weight, polyuria, furuncles, or with a family history of diabetes, or with obesity, or with fasting blood sugar of 120 mg./100 cc., or with blood sugar of 160 (or whatever level one favors) within three hours following a meal.

To take an individual case in which consideration of all clinical data is helpful, Rowe and Rogers' girl of 15 shows a curve which, it is true, falls at one-half hour just within the boundary of 160 mg., but which owing to the history and glycosuria I should feel supported by odds of ten to one the diagnosis of diabetes without insisting upon further blood sugars. Furthermore, I should agree cordially with Rowe and Rogers' admission of the danger in using a test load of 100 grams routinely. In a case like this girl I should agree with those, in the minority I admit, who feel that it is wrong to subject the patient to such an assault on tolerance.

3. Frequently, on the judgment that these several symptoms are *not* adequate (John, Rowe, and Rogers, Shepardson, and others):

Question 5. Are there many practitioners who meet difficulties in securing blood samples, and therefore wish to take the smallest possible number? Doctor Shepardson seems to believe not. In my 1923 paper I thought there were, and today I believe there still are many such practitioners. May I repeat I was in that section addressing not diabetic specialists who are aware of reported experience that neither normal fasting nor normal three-hour blood sugar rules out diabetes, and who also have abundant laboratory facilities, but I was hoping to reach the practitioners who besides the above difficulties are obliged often to pay to a commercial laboratory from three to five dollars for a blood sugar, and also to persuade the patient to accept four punctures.

Question 6. For such practitioners, what advice is practical? "Two values are far more than twice as helpful as one." The alternative seems to be to advise such colleagues that it is better to do either all blood sugars or none.

Question 7. When only two are done, and considered together with other clinical data, how many diagnoses are missed? For answer one finds statements implying that many are missed, but as yet evidence is scanty. One wonders, are more diagnoses missed because patients object to the four punctures, and therefore postpone or evade going to a doctor, than are missed by having only two blood sugars.

Question 8. If in the circumstances named two blood sugars constitute legitimate procedure, which two should be selected? There seem here to be two main preferences: fasting and half-hour period versus fasting and three-hour period. The former combination seems supported by the tabulations in my 1923 paper. The data of Hamman and Hirschmann, John, Rosenberg, and now Rowe and Rogers support the latter combination.

Question 9. Is a smaller load than the classical 100 grams of glucose sometimes preferable? Yes, according to the number of students summarized in my paper of 1923, and some students since, including most recently Rowe and Rogers.

Question 10. As a lighter load, what dose is preferred as adequate? Evidence tabulated in 1923 afforded various opinions. The general trend seemed to me to favor 50 grams given as starch. This dose, however, can hardly be regarded as at all widely accepted as yet.

Question 11. What forms of starch? Again the evidence tabulated offered a choice. The most convenient seemed bread or possibly a shredded wheat and milk meal. On this point Rowe and Rogers' evidence seems extremely instructive and, indeed, the whole paper has been most helpful to me.

AUTHORS (closing)—Our paper emphasizes the importance of the glucose tolerance test in the diagnosis of questionable cases of diabetes mellitus. Where the classi-



cal symptoms of the disease are present along with hyperglycemia or even glycosuria, a tolerance test is altogether unnecessary. The test is valuable, however, where suggestive symptoms of the disease occur in the absence of glycosuria. High renal thresholds in true diabetics, especially in old patients, are not uncommon. The meaning of a definite glycosuria in the absence of any symptoms of diabetes mellitus, moreover, must often be determined by the glucose tolerance test. Our series of curves in normal students again reveals the occurrence of intermittent glycosuria in normal people. Renal diabetes with continuous glycosuria due to a low kidney threshold is not uncommon, and its diagnosis is made possible by the tolerance test.

For the present, we must depend on the standard glucose test for our diagnostic data. A palatable carbohydrate meal, however, would certainly be a more normal load than 100 grams of glucose. If such a carbohydrate meal ever supplants the glucose meal, it will be necessary to determine the optimal amount of mixed carbohydrate that will furnish the proper strain on the pancreas to reveal a true diabetic tendency. Our study of the 50-gram starch meal indicates that it is too light a load to detect mild types of this disease. Until more work of this type has been done with larger amounts of mixed carbohydrate food, we must continue to use the standard glucose test in our investigation of questionable causes of diabetes mellitus.

#### SOME CERTAIN CONSIDERATIONS IN TREATING THE MENOPAUSE†

By LUDWIG A. EMGE\*

DISCUSSION by H. Lisser, San Francisco.

WITH the advent of endocrinology and organotherapy it was generally expected that a complete revolution would occur in the treatment of the menopause. There was an outburst of organotherapeutic enthusiasm carefully nursed along by semicommercial literature. Then came a wave of disappointment and the clearer thinkers in the profession began to counsel against the indiscriminate use of organic preparations. We are now in the negative phase, and skepticism threatens to bring into disrepute one very valuable but no infallible agent in the treatment of the menopause.

It is needless for me to repeat the well-known symptomatology of the menopause. I shall confine myself to a few remarks on the vasomotor and biochemical phenomena studied during the last few years.

**Blood Pressure**—Changes are common but definite percentages are difficult to arrive at, because the menopausal age and the common hypertension age, due to pathologic changes, occur at about the same period in life. In the absence of demonstrable or-

ganic lesions hypertension should be transient, as readjustment of the endocrine factors controlling the vasomotor nervous system takes place. If blood pressure equalization does not occur at the cessation of other menopausal symptoms it is safe to assume that undiscovered organic disease exists. From the literature and my own observation I judge that about 40 to 45 per cent of women in the menopause have hypertension, 5 to 10 per cent of whom will approach a blood pressure of 200 mm.; 40 per cent remain unchanged and from 10 to 15 per cent have hypotension. Shifting from one to the opposite extreme has been repeatedly observed.

**Metabolism**—Observations are still quite few in number. Basal metabolism studies made during either the artificial or normal menopause suggest that approximately 55 per cent of women have a lowered metabolic rate, 30 per cent remain unchanged, and 15 per cent show a rate above normal.

**Blood Calcium**—It is known that in osteomalacia in women progressive calcium loss can be arrested by castration. Hence it has been assumed that certain ovarian functions have a close affinity to the calcium exchange of the body. During the menopause calcium commonly is increased if we may go by the few reports on record. This change seems to follow the removal of the inhibiting ovarian hormone to the adrenal, hypophysis or thyroid glands. The subject has been studied indirectly in idiopathic climacteric menorrhagia which by injections of calcium chloride has been markedly benefited. The German literature has persistently reported good results after the use of other forms of calcium given together with sedatives or ovarian preparations in the treatment of menopausal vasomotor disturbances due to sympathetic irritability. Assuming that these clinical observations stand undisputed for the present, we may deduce that calcium metabolism and irritability of the sympathetic nervous system are closely related.

**Endocrine Relations**—While our knowledge is fragmentary and theoretical in many respects, we have at least some definite factors which repeat themselves quite regularly. We know that the Graafian follicular apparatus disappears quite rapidly as a consequence of which atrophy of the generative organs and amenorrhea occur. This is followed by hypertrophic phenomena in the secondary sex glands, i. e., thyroid, hypophysis, and adrenals. This hypertrophy usually manifests itself in one gland and most often in one constituent of this gland. Thus, it is only the cortex of the adrenal gland which hypertrophies. In the hypophysis it commonly is the pars anterior, while in the thyroid a general hypertrophy is seen. It is this peculiar shifting of the endocrine balance which is responsible for a host of different manifestations in different individuals. If one gland alone compensates for the ovarian loss the end-manifestation is usually quite apparent. Thus, we speak of such types as the pituitary or thyroid types, either of which may again be expressed in a hyper- or hypofunction type. In other words, a tertiary action takes place in which the increased influence of the hypertrophic gland leads to an inhibition of another gland manifesting itself in hypofunction. Consid-

† Read at the meeting of the Nevada State Medical Association, Reno, September 24, 1926.

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ered as a whole our problem is a pluriglandular one, although basically it must be regarded as a monoglandular question. The difficulty arises in the determination of the pivotal gland. We have similar problems in amenorrhea of earlier ages. For instance, in hyperthyroidism the overactive thyroid inhibits the ovaries producing secondary amenorrhea. While in myxedema the hypophysis enlarges producing a tertiary amenorrhea. The lack of time prevents me from going further into this question. While we do not know anything of the origin of primary ovarian inhibition ushering in the climacterium, we have some basic information of the processes that follow. Based on the latter a fairly successful organotherapy combined with proper hygiene and some symptomatic therapeutics offers a reasonable outlook for success in the treatment of the menopause. There is no doubt in my mind that the greatest success in treating any form of the menopause is reached by a proper management of the patient during its early phases. If we could teach women to recognize this fact we would thereby remove a serious stumbling block to therapeutic success.

Since our knowledge of the endocrine dynamics of the menopause is still so very fragmentary, it is obviously impractical to lay down definite rules for an endocrine treatment. At best, we must content ourselves for the present to differentiate between certain general types of menopausal changes which may represent either thyroid or pituitary or adrenal dysfunctions. In observing this rule we shall find a fair amount of guidance for a more rational utilization of organic preparations. Where types overlap, pluriglandular treatment may become necessary but should at all times be considered as a last resort. It has been my experience that a large majority of menopausal women respond to monoglandular therapy. Since the predominance of one gland may be displaced or overshadowed by another during the progress of the menopause, it is obvious that different types of glandular preparations may have to be substituted for each other.

Theoretically, the ovarian preparations should fill all of the demands of endocrine deficiencies during the menopause. Practical experience has taught us that this is not the case. To my knowledge only vasomotor instability and nervous irritability, when not accompanied by change in blood pressure, will respond readily to either ovarian residue or whole ovary. Apparently the adrenal glands are thus balanced and sympathetic irritation is removed. Thyroid extract is to be utilized when there is low blood pressure, mental depression, and lowered metabolism. It is obvious that this substance should not be used when the opposite condition exists. Corpus luteum is most helpful in hypertension. It should not be forgotten that this substance antagonizes the thyroid gland. It also stimulates the pituitary gland and hence is of value in pituitary depression. Direct pituitary stimulation through pituitary preparations is still very unsatisfactory. At times pituitary disturbances seem to respond well to a combination of whole ovary and thyroid extracts.

There is no standard dosage for any of the organic preparations used in the treatment of the meno-

pause. With the exception of thyroid none of these substances is standardized. Hence one must feel one's way by starting with small doses and rapidly increasing them to the point of functional saturation. I am not at all convinced that much is to be gained by hypodermic medication in preference to medication by mouth. Fresh dried organic extracts protected against deterioration, especially when they are put up in glycerine, seem to give as much and often more satisfaction than hypodermic preparations. They have the added advantage of less discomfort and less expense to the patient. A great deal of dissatisfaction has arisen from the use of shopworn and indifferent preparations. There is no doubt that available products differ materially in active principles in one given preparation. It is therefore most essential that one acquaint oneself with the true equivalent of the fresh substance contained in the commercial article. Consequently one should specify precisely the make of the substance to be used. By keeping careful records one can soon find out what substances are most suitable and serviceable. Next, close supervision of the patient with regard to blood pressure and visible body changes will prevent any misdirected effort should shifting of the endocrine balance take place.

Recently calcium, at times combined with theobromine, has been advocated as an important adjunct to ovarian organotherapy. My experience with it is still too limited to express an opinion as to the value of this method. What I have seen seems to substantiate the claims set forth in the literature.

Some very interesting reports on the radiological treatment of the menopause come from Germany. According to the type of the endocrine dysfunction either the thyroid or the pituitary gland is exposed to given doses of x-ray. Astonishing results are claimed for this treatment in which the psychic factor has been definitely eliminated by proper experiments. As far as I can learn from the literature this treatment has not been used elsewhere. If the claims made for it can be substantiated it will displace organotherapy in either the artificial or normal menopause.

In spite of our best efforts we find only too often that organotherapy alone will not solve our problem. We then have to fall back on the time-honored remedies of an earlier period. Among them valerian preparations seem to be the most helpful. Proper body and mental hygiene should always have a prominent part in the treatment of the menopause regardless of what other course of treatment is pursued.

There are a great many other aspects of the menopause that are most interesting, but they must be left to another discussion. In leaving the subject I once more caution against the indiscriminate use of the extracts of endocrine glands. They are not infallible in their action nor are they fool-proof in the hands of the careless. Notwithstanding the opinion of a few well-known observers who dispute any merit of this method of treatment, I have learned from personal experience that sensible organotherapy is a most helpful agent in the treatment of the menopause.

## DISCUSSION

H. LISSE, M. D. (Fitzhugh Building, San Francisco)—Doctor Emge can always be counted upon to present a sane and conservative viewpoint; this paper is no exception. With brevity and clarity he has presented the essential facts as far as present knowledge permits.

The matter of endocrine control of calcium metabolism has acquired a renewed and more precise interest since the remarkable work of Collip, who has perfected a potent parathyroid extract (now available as "Parathormone"). This extract has a specific and profound effect in raising the blood serum calcium; it mobilizes calcium; it is only effective by injection. Tetany is a state of hypoparathyroidism and is accompanied by a strikingly diminished blood serum calcium. The most characteristic phenomenon of this incretory disease is increased excitability of the entire nervous system, motor, sensory, psychic and vasomotor. It seems a bit contradictory therefore to assume an increased calcium content after the menopause and hold it responsible for vasomotor excitability. Calcium determinations must be performed with scrupulous accuracy; perhaps previous observations have been incorrect. At any rate if any noteworthy disturbance in calcium balance attaches to the menopause, the *modus operandi* is probably an indirect one through derangement of parathyroid function. There is a hint here for interesting clinical experimentation.

The artificial menopause is apt to be more severe than the natural climacteric, probably because it is so abrupt, and the earlier it is produced the more violent are the symptoms. Indeed these may be so distressing as to cause utter wretchedness and incapacity. The severer the symptoms the less efficacious the remedies. Surgeons cannot be warned too strongly to spare the ovaries wherever possible, especially in young women. Carelessness in this matter is positively reprehensible.

Not long ago I attempted to classify the various commercial preparations according to their merits. In Class A were grouped those extracts which were standardized and potent, namely, thyroid, insulin, parathormone, adrenalin (from the adrenal medulla) and pituitrin (from the posterior hypophysis). Class B included extracts which were worth while but inconsistent; Class C comprised those which were deemed practically worthless. Ovarian extracts were assigned to Class B. Rapid strides are being made in the biochemical investigation of glandular extracts; only a few years ago parathyroid and pancreatic extracts would have been ignominiously dumped into Class C. Indeed there are important developments in the study of ovarian products, notably by Allen and Doisy of St. Louis, and the Denver group of Frank Gustavson, etc.

We may confidently look forward to a more satisfactory ovarian therapy before very long. In the meantime we must do the best we can with the methods Emge has outlined.

**Infantile Tetany**—Twenty-one cases of infantile tetany have been studied by John P. Scott, Philadelphia, and Saul J. Usher, Montreal (*Journal A. M. A.*). They found that calcium chloride and ammonium chloride were specific in relieving the convulsions of tetany as long as they were given. In one case, when the calcium chloride was discontinued, even for a day, the convulsions reappeared. Furthermore the signs of latent tetany, such as the Chvostek and Trousseau signs, were found present even after several weeks' administration of either salt. In the main, there was an appreciable elevation of the blood calcium after the giving of either salt, but in two cases there was a definite lowering. Cod liver oil in large doses, when combined with calcium chloride, or by itself, slowly and permanently raised the blood calcium into the normal range. Ultraviolet ray treatment gave the most rapid restoration of the blood calcium to normal figures. Frequent treatments with the mercury vapor quartz lamp give the quickest and most permanent results. Both the tetany and the accompanying rickets are cured. The ultraviolet rays raise the calcium concentration and also that of the inorganic phosphorus to normal by causing increased absorption of these elements from the gastrointestinal tract.

## URETERAL REFLUX

By JAMES R. DILLON\*

*The possible conditions of reflux in my patients seem to be associated more with urinary infection and pathological conditions of the kidney than with urethral obstruction.*

*Utilizing the principles of gravity, ureteral backflow and bladder distention, producing a hypertonicity of the bladder musculature will greatly aid in obtaining good pyeloureterograms in patients hard to catheterize or with overactive ureteral peristalsis.*

*The possible use of ureteral reflux in the treatment of bilateral pyelitis instead of kidney lavage in patients where reflux is found to exist is indicated.*

*Reflux undoubtedly plays an important part in carrying infection of the lower urinary tract to the upper, and possibly from a diseased kidney to a normal one, and we should use more caution in the treatment of patients with cystitis.*

DISCUSSION by Louis Clive Jacobs, San Francisco; L. P. Player, San Francisco.

MANY articles have appeared in the last few years calling our attention to the condition of ureteral reflux, or backflow of bladder urine into the ureters to the kidney pelves. This phenomenon has been studied from the clinical and animal experimental standpoints, both as to its occurrence in establishing the fact of ascending infection of the kidneys and its treatment, but little has been mentioned as to the practical use that may be made of it in urology.

Most of the reports in the literature have been on the occasional accidental observation of reflux in the taking of cystograms and has generally been associated with pathological conditions, as shown by Bumpus in a study of 1036 cystograms, finding it in one or both ureters in eighty-nine pathological cases, or 8½ per cent. Braash and Draper, who made an experimental study on dogs in doing meatotomies on the ureteral orifices concluded that the peristaltic action of the ureter was sufficient to protect the kidney even if the ureterovesical valve was destroyed, and that "renal infections are seldom if ever ascending, but rather hematogenous in origin."

Graves and Davidoff found it occurred in 73 per cent of a large number of normal rabbits, and in 78 per cent where the ureters had been rendered abnormal by previous operative procedures. They conclude that the phenomenon of reflux depends primarily upon the sustained tonus of the bladder musculature as it actively resists distention; and that the ureterovesical valve and ureteral peristalsis are insufficient protections "against the ascent of accumulating bladder contents into the ureters in the presence of an actively contracting bladder with vesical neck obstruction." Also they did not see antiperistalsis in any normal ureter and found it in no way concerned with regurgitation.

My experimental work with the assistance of Dr. B. A. Cody on normal animals has been along the lines practiced in the treating of bladder conditions and the making of urological examinations on the human, with no attempt to attain the hyper-

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Fig. 1. Prone Position—Bladder filled with 16 oz. sterile water. Pyelogram then taken showing left hydroureter and kidney tumor.

tonicity of the bladder musculature as practiced by Graves and Davidoff. Therefore, our experimental results were unsatisfactory as far as reflux was concerned, and similar to those obtained by investigators previous to the above authors.

The conclusions drawn in this report are based on the study of patients in whom the principle of ureteral backflow was utilized in obtaining pyelograms in many urological examinations, and in the treatment of bladder and kidney conditions where possible reflux existed, or where we did not want it to occur.

CASE I—P. W., age 65, admitted to the San Francisco Hospital November 2, 1923, complaining of hematuria and pain off and on from August 1, 1923, when he had the first attack of a sharp, steady aching pain in the lower left quadrant, with no radiation, lasting thirty-six hours. He was cystoscoped and studied at that time in another institution, which reported bleeding from the left kidney, but normal kidney function for indigo-carmin

and phthalein from both kidneys, and normal urines; but they failed to get pyelograms, because of the rapid drainage of the opaque solution from the kidney pelvis and ureter into the bladder. At the time I saw him the general physical examination revealed nothing significant except that the lower pole of the left kidney was palpable on deep inspiration, and he had a moderately enlarged prostate, but no residual urine. Cystoscopy showed diminished function of the left kidney; indigo-carmin appeared right 6 minutes and left 11 minutes. Phthalein appeared right 4 minutes and left 5 minutes, faintly. Right, 25 per cent; left, 10 per cent. Leakage into the bladder very slight, but I was as unsuccessful in my first attempts at pyelograms as my predecessors had been. Five days later he was again cystoscoped and ureters catheterized and the bladder filled with 16 ounces of sterile water before the 15 per cent sodium iodide was injected through the ureteral catheter, resulting in a good pyelogram, showing a dilated left renal pelvis and ureter, with very little x-ray evidence of malignancy (Fig. 1). Operation showed a normal-appearing kidney in the lower two-thirds, but the entire upper third was replaced by a hypernephroma which had spread over the diaphragm, renal pedicle and aorta.

The bladder was filled with sterile water with the idea of bringing the intravesical pressure to bear upon the ureteral valve, and overcoming the very active ureteral peristalsis; but it can also be partly explained by the production of the hypertonic state of the bladder musculature which causes the ureteral orifice to open and the bladder contents regurgitating and equalizing the pressure between the bladder and the ureteral-kidney pressures. For the last three years we have put our patients in the Trendelenburg position while injecting the opaque solution, followed by pyelograms in the prone and standing positions, which were immediately developed and inspected; if not satisfactory the work was repeated, or if found to have had the solution drain into the bladder too rapidly, the bladder was then filled with sterile water up to 16 ounces and pyelograms retaken. In many instances where catheters could not be passed more than a centimeter or so, very good uretero-pyelograms were obtained by putting the patient in the Trendelenburg position and utilizing the principles of gravity, ureteral back flow, and hypertonicity of the bladder musculature.

CASE II—L. M., age 54, entered Stanford Clinic No-



Fig. 2. Prone Position—Showing opaque solution has drained back into bladder.



Fig. 3. Trendelenburg Position—Showing reflux of solution from the bladder into both ureters and kidney pelvis.



Fig. 4. Cystogram in Trendelenburg Position—Showing reflux of opaque solution into both ureters and to left kidney pelvis.

vember, 1925. Complaint, gonorrhea. Had had three previous attacks; last one started three weeks ago. Discharge stopped and left testicle swelled. Had been treated in various clinics over the country for bladder trouble. Examination showed a thickened left epididymis, no urethral discharge, but urine full of pus, colon bacilli and staphylococci. Prostate small, no induration, no residual urine. Urethral caliber, 30 Fr. to bladder. Cystoscopic examination showed a slightly inflamed bladder mucosa, with normal appearing ureteral and urethral orifices. Indigo-carmin appeared from the left ureteral orifice in 6 minutes in good density and none from the right in 35 minutes. Pyelograms were then taken in the prone position after injecting in the Trendelenburg. Inspection showed all the sodium iodide solution in the bladder (Fig. 2). The patient was returned to the Trendelenburg position, a few cc. more of the sodium iodide injected, and new pyelograms taken in this position, showing practically all of the opaque solution had drained out of the bladder into both ureters and kidneys, with the right catheter coiled in three or four loops in a dilatation of the ureter a few cm. from its orifice (Fig. 3). To prove the phenomenon of reflux in this patient, a cystogram was taken a few days later with 5 per cent sodium iodide solution showing regurgitation into both ureters and to the left kidney (Fig. 4). The x-ray showed a hydronephrosis and hydroureter on the right and a renal tumor on the left, which was this man's "sole support."

In two recent private cases of pyelitis in women in whom the ureters were easily catheterized to the kidneys and the bladder fluid regurgitated to the kidney pelves and ran out of the catheter in almost a stream, I failed to make any progress by kidney lavage. Although I did not take cystograms in these patients to ascertain the presence of ureteral reflux, I started treating them once a day by washing the bladder gently with boric solution, injecting not over an ounce at a time, and then instilling one-half ounce of 2 per cent mercurochrome. The hips were elevated and the patients instructed to hold the solution in their bladders as long as they could, which varied from a few minutes to more than an hour. Large perineal pads were placed over the vulva to catch the escaping urine. They made far more remarkable progress clinically than they had with the kidney lavage, the urine becoming macroscopically clear. Of course, we cannot draw positive conclusions from only two cases, but there is enough suggested evidence to warrant us studying such patients with cystograms where the bladder contents is regurgitated up the catheterized ureters to the kidney pelves and out through the catheters.

Another lesson to be learned from the principles of reflux is the treatment of posterior urethritis and the after-treatment of prostatectomies. Many complications of pyelitis are undoubtedly due to too vigorous bladder irrigations and to overdistention, as well as in some cases to the hypertonic musculature of the bladder as it becomes slowly filled when the wounds first close, regurgitating to the kidneys the infected material from the inflamed bladder. Such possibilities should be kept in mind and attempts to avoid them by more gentle bladder irrigations and urinary antiseptics be made.

#### DISCUSSION

LOUIS CLIVE JACOBS, M.D. (462 Flood Building, San Francisco)—Everyone who has had a wide experience in urological investigations must necessarily be impressed with Doctor Dillon's valuable contribution because of the many difficulties encountered in obtaining proper pyelograms. Utilizing his knowledge of the mechanics and physiology of the bladder and ureter, Dillon has devised

an improved technique, based on the study of the phenomenon of ureteral reflux. Both clinicians and research workers have demonstrated the existence of this phenomenon.

I have frequently encountered a urinary reflux in male patients with pathological conditions of the bladder associated with a hypertrophied prostate. When reflux is present, opaque solutions, such as sodium bromid or potassium iodid, that have been introduced into the bladder, can be roentgenologically demonstrated as having passed up the ureter into the kidney pelvis.

In my investigations of hundreds of female patients at Mount Zion Hospital, where cystograms are taken as a routine procedure, no reflux was observed, excepting in those having a dilated ureter, concomitant with a pyelonephritis. Nevertheless, I agree with Dillon and other investigators that such a condition necessarily must exist or can be easily produced, where the competency of the opening is interfered with either as a result of a pathological condition or the mechanical interference with ureteral catheters.

Dillon's method of filling the bladder with the patient in the Trendelenburg position is commendable, and its utilization will clarify many doubtful urological diagnoses.

In several of my recent patients I have obtained excellent results by the adoption of this method. Likewise, the utilization of gravity with the patient's hips elevated in lavage of infected kidneys has proved of inestimable value.

L. P. PLAYER, M.D. (384 Post Street, San Francisco)—Doctor Dillon's very excellent contribution has opened up a practical method of pyeloureterography and of treatment for those patients in whom there exists a definite ureteral reflux, disregarding entirely any theories as to its etiology.

Dillon has utilized a pathological condition in effecting a method of treating pyelitis, ureteritis and, naturally, cystitis. By merely reversing the patient's normal standing position he has accomplished his purpose.

The urologist not infrequently encounters ureteral reflux plus infection and comes to realize how resistant to treatment the condition is; as ordinarily the amount of medicament employed is so small, or it leaks back to the bladder so easily, that the whole surface of the part involved is not reached.

Since hearing Dillon's paper I have been treating a patient with reflux by dilatation of the ureteral orifice with a Garceau catheter in an endeavor to increase its tonicity. Future x-rays employing my technique will determine the results.

Few, if any, decisions of the Supreme Court of the United States have been so universally and drastically condemned by the press of the country as that which by a 5 to 4 decision the court upholds a Volstead law which tells a doctor the maximum dosage of alcohol he may give his patients. The *Chicago Tribune*, for example, says:

"Will the Supreme Court's decision on medicinal alcohol prove to be the Dred Scott case of prohibition?"

"It might well be. Certainly no conscientious physician in charge of a serious case will waive his judgment of the need of his patient because of the dictate of a legislature or the opinion of a bench of judges. The prescribing for the needs of the sick is not a proper function either of a legislature or a court, and the law which attempts to put limits on the judgment of the physician is of a piece with the fanaticism which would determine any other scientific judgment by act of law. If a legislation directs that no public school shall teach that the earth is a sphere, if it directs that it shall teach that the earth is the center of the universe and that the sun moves above it from east to west, it would be no more out of its legitimate field than it is when it forbids a physician to prescribe more than an amount of alcohol which it fixes in its own wisdom.

"The Eighteenth Amendment was in plain language directed at and limited to prohibiting the use of alcoholic intoxicants as beverages. The decision of a bare majority of the Supreme Court now extends the prohibition to their use for medical purposes."

## CHRONIC URETHRITIS AND SOME OF ITS CAUSES

By FRANCIS X. VOISARD, M. D., *Sacramento*

UNFORTUNATELY the patient is not always instructed how to use his injections; the attending physician, even in these days, is at fault.

No injection, no instrument whatsoever, should be admitted in the urethra except under rigid aseptic precautions; too frequently the patient is only told to use his syringe as he did before.

Even after the microscope shows no more gonococci, there is often a discharge, a morning drop at the meatus; examinations show numerous microorganisms of secondary infection. According to some writers, secondary infections are worse than the gonococcal infection in that they have more power of invading the tissues.

The gonococcus causes the most damage to the urinary tract. In health certain types of microorganisms are found near or about the genital passages; if the same passages have been damaged by the gonococcus, these organisms multiply to an enormous extent and gain hold on the congested mucosa, and from that time on they become pathological germs. This causes the continuation of the disease. At first they were inoffensive, lurking outside; now, with the help of a dirty syringe, they reach further up in the urethra, become established in the mucous glands and are responsible for a persistent gleet or chronic urethritis.

The faulty injections and irrigations, the too strong solutions used, help also the germs to destroy the resistance of the already diseased urethral canal.

**Ossifying Hematoma**—The six cases of hematoma presented by C. A. Stone, St. Louis (*Journal A. M. A.*), all followed a single trauma during athletic competition. In each case there was a hard blow, and then a hematoma which decreased in size and later ossified. They were all under the periosteum. This would make it appear that following the injury there was bleeding next to the bone. The periosteum was pushed up and gradually stretched into various shapes, in which position ossification took place. Each tumor was bone entirely covered by periosteum. Muscle was attached to the outside, but not once was it found inside the mass. This should be ample proof that it is not ossifying myositis. Ossification took place within two months after injury, and with one exception operation was not done until the process was complete. There was no recurrence. Good function returned promptly, and has been permanent. In two instances operation was not necessary, the condition being improved by heat and massage. Contrary to most of the literature, the diagnosis was not difficult. The patients were all young adults. In five instances the tumor occurred on the femur. This was also true with three anatomic specimens seen by Stone. There was one at the head of the tibia, and one at its lower end.

The force we have sought to substitute for the crumbling centers of authority is public opinion. That operates pretty effectively for the average, docile, comfort-loving individual, and for the more intelligent being so long as public opinion is undivided and so long as he does not imbibe the contempt for it which is always in the intellectual air. But let him get hold of the notion that public opinion is a rhymeless, reasonless, thoroughly treacherous old crone who commends his act in one milieu, ridicules it in another, and frowns on it in another, and he sends public opinion packing and begins to flounder for standards of his own.—Avis D. Carlson, *Harpers' Magazine*.

## THE POTENCY DATE ON BIOLOGICS

By JOHN F. ANDERSON, M. D.

*Director Squibb Biological Laboratories*

FREQUENT inquiries are received at the Squibb Laboratories from pharmacists and physicians asking whether biologics, on which the potency date has passed, might not still be used with safety and confidence. This article is written with the idea of answering this same question as it arises in the minds of other representatives of the professions.

The potency date on biologics is defined in the law, as that "date beyond which the contents (of the packages) cannot be expected beyond reasonable doubt to yield their specific results." The federal regulations governing the fixing of the potency date on biological products have two main provisions. One pertains to those products which have a standard of potency which can be used at any time to establish definitely the potency and the therapeutic worth of the product. The other provision relates to those products for which there is no standard of potency, or no means of determining quickly by laboratory methods the true therapeutic worth of the product.

In the first class we have the antitoxins, such as diphtheria and tetanus, for which there are international standards of potency. For these products the Government regulations prescribe that for each twelve months' potency period there shall be added to the contents of the package a definite excess number of units to compensate for the loss in potency on aging, even though not kept under proper conditions. For example, a package of 10,000 units of diphtheria antitoxin, having a potency period of two years, must contain, when finished, at least a 30 per cent excess in the number of units, or a total of 13,000 units instead of only 10,000 units as stated on the label.

It is at once apparent, therefore, that a package of diphtheria antitoxin may be used any time within the potency period stamped thereon, and that the person to whom it is administered will get at least the number of units stated on the label. Should the contents of the package be used after the potency date has expired, it will still be found to be therapeutically effective, and at any time within a year thereafter probably will contain within 10 per cent of the original labeled potency.

All will recall that in the diphtheria epidemic at Nome, Alaska, the only diphtheria antitoxin that was at first available was outdated, but that its use saved many lives.

There are potency standards for other products than diphtheria and tetanus antitoxins, among which may be mentioned typhoid vaccine, diphtheria toxin for the Schick test, anti-meningococcal serum, anti-pneumococcal serum, anti-dysenteric serum, scarlet fever toxin, and scarlet fever antitoxin. However, the standards for all of these products, with the exception of the last, are used only for the purpose of insuring that when distributed the product will exert certain specific effects, as, for example, that the anti-pneumococcal serum will protect mice against a certain dose of a culture of pneumococci, using a standard serum for comparison; or that scarlet fever



toxin for the Dick test will cause a positive skin test in a person not immune to scarlet fever.

Usually but little excess volume is put into the containers of these last-mentioned products, for the reason that the methods of standardization do not permit of exact quantitative measurement.

These products, therefore, will show a gradual decrease in potency on aging, but this decrease will be much less when the products are kept properly refrigerated. Most of them may be used after the potency date has expired, if due allowance is made in the dosage for the decrease that occurs from aging. No exact information is available, however, as to how much this loss of potency is for each product.

Consequently, for those products for which no standards of potency have been established, the Government has fixed a definite potency period. These products, which include the various bacterial vaccines, except typhoid, anti-streptococcic serum, leucocyte extract, normal horse serum and similar preparations, probably still are therapeutically active after the potency date has been reached, if they are used in excess of the original dosage.

There is no potency standard for smallpox vaccine except that it must produce a good "take." Refrigeration is of the greatest importance to maintain the potency of this product. If kept at temperatures above 50 degrees F. the vaccine rapidly loses in potency. Smallpox vaccine should be kept, whenever possible, in a tin box in direct contact with the ice.

Rabies vaccine, Semple modification, being a killed virus, is in the same class as other products for which there is no potency standard. Rabies vaccine, Pasteur, however, has a short potency period and, except for the first seven doses, is only shipped from the laboratory for immediate use.

It will be apparent from this summary of the use of the potency date on biologics that the Government regulations have fixed the potency date for various products to insure "beyond reasonable doubt" the therapeutic worth of those products any time prior to that date. It is also clear that the antitoxins and most of the other biological products may be used after that time in cases of emergency, if proper allowance is made by increasing the dosage.

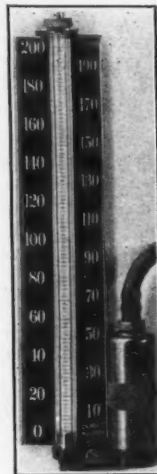
All will realize the importance of constant attention to stocks of biologics, always making sure that those with the shortest potency periods are used first.

**Taenia Saginata in Gall Bladder**—Edward B. Benedict, Boston (*Journal A. M. A.*), reports a case in which a diagnosis of acute cholecystitis was made. At the operation 310 cm. (10 feet 2 inches) of *Taenia saginata* was removed from the gall bladder. About fifty years ago the man worked in a butcher's shop, and was accustomed while there to eat little pieces of raw beef—never any raw meat except beef. He has had no raw meat of any kind since leaving the butcher's shop about fifty years ago. For two years he has known that he had a tapeworm, passing segments about an inch and a half long, sometimes in the stools, sometimes separately. At one time, following medication advised by a physician, he passed a portion about 22 inches (56 cm.) long, and believed he had passed the whole worm; but after an interval of about three months he began passing segments again, and continued to do so. On the morning of operation he vomited a piece of tapeworm. Convalescence was entirely uneventful.

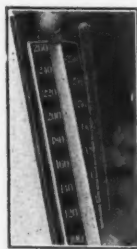
## CLINICAL NOTES, CASE REPORTS AND NEW INSTRUMENTS

### A NEW SPHYGMOMANOMETER

A new mercurial Sphygmomanometer in which several important objections to this type of instrument are overcome, is described by J. L. Wilson, M.D., and H. N. Eaton, A.M., in the November 20, 1926, issue of the *Journal of the A. M. A.*, page 1742. It has no cemented joints, and other common causes of mercury leakage and glass breakage are eliminated by the use of a simple, straight glass tube, held in a resilient mounting which enables the tube to withstand shocks which would otherwise shatter it. Severe tests have proved the sturdiness of the new construction.



The tube is so mounted that it can be removed (as for cleaning) by a simple pressure of the thumb, and replaced with equal facility. Thus, if the glass tube should break, the user can quickly insert a new one himself, without having to return the instrument to the manufacturer for repairs.



The insertion of a new tube does not impair the accuracy of the instrument. Each steel reservoir is an exact counterpart of the master steel reservoir against which each tube is individually calibrated. Therefore, the scale, which is separately engraved on each tube, is identically accurate for any instrument of this new type.

The design of the instrument (made by the W. A. Baum Company of New York) was developed along the lines of maximum service and convenience to the user without the sacrifice of simplicity and ruggedness, which experience has shown to be so desirable in instruments of this character.

A full account of the improved Baum Sphygmomanometer, which is also advertised in *CALIFORNIA AND WESTERN MEDICINE*, was published by Wilson and Eaton, *Journal A. M. A.*, November 20, 1926.

## - BEDSIDE MEDICINE FOR BEDSIDE DOCTORS -

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited. Useful extracts from letters will be published.

### SHOULD DRUG ADDICTION BE A REPORTABLE DISEASE—GIVE REASONS

**The Editor**—The narcotic situation is a troublesome one to doctors, legislators, courts, police, and the public.

It is pre-eminently a medical problem, about which physicians have little or nothing to say. Narcotics are among our most important remedies, but it is getting constantly more difficult to use them legally. The question, ably discussed below, is likely to receive further agitation during the present session of the legislature, and the opinions of the prominent discussants here published may prove of use to those charged with the responsibility of making our laws.

**Robert T. Legge**\*—As a student of preventive medicine, I believe that the prevention of drug addiction should engage as much consideration in this field of endeavor as any infectious disease.

This evil which is attracting much unwise publicity, due to grossly unwarranted and exaggerated statements of an increasing menace to society, could be curtailed and reduced to a minimum by government supervision of drug traffic, the exception being only in the cases of those unfortunates suffering from incurable maladies.

Sociologists inform us, if statistics are dependable, that fully 95 per cent of drug addicts are the outcome of association with the underworld, or the channels leading directly to it. These individuals, mostly delinquents and social misfits, become addicted largely through association with habitues who find in the drug a panacea for the physical and mental ills which are the results of the lives they are leading. Psychiatrists and criminologists have always been aware that the individuals who will fully adopt narcotic habits are psychopaths, and, in a few instances, accidental cases.

Since the Harrison Narcotic Law went into effect there is no question that drug addiction has materially decreased, judging by statistical reports of population and amount of narcotics now manufactured. It is a well-known fact that drug peddlers and smugglers illicitly secure their supplies from our neighboring countries; a fact that the United States should take note of by an international regulation. The American Medical Association should define in the form of a law what constitutes in professional practice the legitimate use of narcotics. Such a law could be incorporated as an amendment to our state narcotic acts and probably abate an abuse that is at present practiced by careless and unscrupulous prac-

tioners. It may be possible to determine by careful research the possible minimum therapeutic use of morphia and cocain, so as to curtail the manufacture and importation of these two drugs, heroin and other types of narcotics to be prohibited entirely.

It therefore seems to the writer that there can be no question as to the great value of a thorough investigation and report of the actual conditions existing, for the reasons here briefly stated:

1. As there are no reliable statistics as to the extent of the problem, the reporting of all addicts to the official health officers by physicians, nurses, social workers, peace officers, and institutions would contribute at least to determining the number of addicts.

2. It would afford opportunity to estimate the probable number of psychopathic hospitals, narcotic clinics, and farms for the curable cases, and the amount of institutional space for the confinement of the hopeless.

3. It would aid Congress to an intelligent appropriation of funds to each state for the relief of habitues under treatment, and to uphold the Federal Narcotic Acts.

4. It should contribute to the establishing in every municipal and county hospital a narcotic clinic for the curing and rehabilitation of the addict, and for the purpose of segregating the criminal and the hopeless cases, and to maintain a follow-up system so as to keep in touch with them after rehabilitation. These clinics will permit the patient to secure his narcotics while undergoing treatment at cost and will effect the elimination of the drug peddlers. As most addicts are suffering from other infirmities, a clinic can care for these during the narcotic therapy.

5. A knowledge of the victims of the narcotic habits will make it possible to obtain valuable information in regard to their sources of supply, and will aid the police in the detention of the criminals of both classes: the addicts and those who contribute to their debasement. A history as to age, race, sex, occupation, mentality, etc., would be of inestimable value and aid in educating the public in the problem, and would also produce an informed and intelligent public opinion.

**George E. Ebricht**\*—A law making drug addiction a reportable disease would, from a practi-

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\* **George E. Ebricht** (719 Fitzhugh Building, San Francisco). M. D. Medical Department University of California, 1899. Graduate study: University of Munich, 1907; volunteer assistant in clinic of Prof. Frederick von Mueller. Previous honors: Formerly President California Academy of Medicine. Present hospital connections: Consulting physician San Francisco Hospital. Scientific organizations: San Francisco County Medical Society, C. M. A., A. M. A., California Academy of Medicine. Present appointments: Clinical Associate Professor of Medicine, Univ. Calif.; President California State Board of Health; member California State Council of Defense; member of commission appointed by Governor Stephens to make report to legislature on narcotic evil. Practice limited to Medicine since 1909. Publications: Approximately twenty articles on medical subjects.

cal standpoint, be impossible of enforcement, unless failure to report such cases was made punishable by quite a heavy fine. I do not believe that the medical profession should be subjected to such a penalty unless the expected results of the enforcement of such a regulation would be a solution of the problem, which is, upon its face, an impossibility.

For example, if all drug addicts in California, their name, sex, address, age, occupation and whatever other information may be desired, should be completely reported at once and a roster of 100 per cent of all such cases be in the hands of the authorities, the situation would then be just where it was on January 4, 1923, when a commission consisting of H. B. Meader, president California State Board of Pharmacy; Egerton Shore, member State Board of Control; John A. Reily, M. D., member Lunacy Commission; George B. McDougall, state architect Chief Division of Architecture; and George E. Ebright, M. D., president California State Board of Health, made a report to Governor Stephens, too long to publish in full, but which concluded by recommending:

"First, that the Legislature of California memorialize the United States Congress to take such steps looking toward the control of the manufacture and importation of narcotic drugs and that treaties be entered into with foreign countries to prevent the smuggling of such drugs into this country.

"It is the unanimous opinion of the committee that opium and its derivatives properly used by patients in the hands of the medical profession have been a boon to the human race in the alleviation of suffering and pain and that such proper use of narcotics should in nowise be hampered or interfered with and that the medical profession may be trusted as a whole to properly safeguard those in their charge from abuse of these important and necessary remedies.

"The committee therefore respectfully recommends that the legislature consider the inefficacy of the infliction of fines and short jail sentences upon those convicted of smuggling and peddling narcotic drugs and consider the question of sufficiently long jail sentences as a deterring influence upon smuggling and the peddling of narcotics."

On account of the ease with which it may be accomplished, as compared with other forms of smuggling, opium smuggling will undoubtedly continue as long as a source of supply remains available. International action by the nation's most interested in the problem is necessary to accomplish a reduction of the supply at its source, and recently an effort has been made to bring it about. Advices from London dated June 11, 1926, are to the effect that India will cease to export opium except for medicinal uses in ten years. A loss of revenue to India is estimated to be \$7,200,000 annually, and to avoid too serious economic effect a gradual curtailment covering the ten years has been arranged.

Whatever the wisdom of this action may be remains to be seen. Certain it is that opium or its derivatives is one of the most necessary drugs in the physician's armamentarium. Any curtailment of the liberties of the medical profession in the use of opiates is, in my opinion, attended with far more

serious dangers than have heretofore been presented in the abuse of the drug. Already the manufacture of heroin has been stopped by law. An action which undoubtedly would not have been taken had it rested upon the vote of the practicing physicians and surgeons of the country.

I believe that the medical profession should be very slow in advocating a curtailment of their own liberties and should view with suspicion all acts on the part of others which might in any way jeopardize or hamper or restrict them in the execution of their professional judgment; or in the free use of those products of scientific labors and investigations which has marked the advance of civilization.

I can conceive that when opium and its derivatives are limited to "medical use" it will be necessary to define the term "medical use," and when that times comes it will be very interesting to know whether or not the great army of practicing physicians and surgeons have very much to say in shaping that definition. They are, after all, the only ones who have any right to voice the needs of those suffering from pain, and while no one with any spark of humanity can belittle the suffering and privation brought about by drug addiction, it is wise to consider carefully the cure of that ill that we have lest we unwittingly incur another far more serious one.

**George Parrish \***—It is a mooted question whether under our present laws and ordinances, rules and regulations, drug addiction should be made a reportable disease. If so, just what good would be accomplished?

There are many angles to consider—the first and almost the only good that can come from reporting under the present system is that it will give a fair estimate of the number of addicts in a community. Even these reports will not be accurate because of the illegal traffic or "bootlegging" which is being done. When a case is reported the Health Department can take no step toward bettering the addict's condition, for under present regulations the health officer has no authority. At present he is nothing more or less than a rubber stamp for the National Narcotic Board.

At the national convention, which was held at the Hague in 1912, the powers pledged themselves to control the drug evil and enact laws regulating the use of all habit-forming drugs, making illegal possession a penal offense; limiting the manufacture of morphin, cocain and their salts to authorized agents who shall register quantity, disposition, etc.; controlling the manufacture, receipt and disposition of the drugs to the hands of the user. The governments have not done what they pledged.

Under the Harrison Act there is no limit to manu-

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facturing for export. In 1920 alone 81,000 ounces of morphin and 108,056 ounces of cocaine were exported and much of this was smuggled back into the United States of America. Regulations that are too severe have been the means of creating thousands of smugglers. The Harrison Narcotic Act in its present form offers the addict neither hope nor consolation. In depriving him of his drug it offers him neither a cure, a placebo, nor a substitute. In his agony and distress he is compelled to "bootleg."

Under these circumstances and present regulations no great good can come from compelling physicians to report these cases to the Health Department.

A great good could come from completely re-adjusted conditions.

1. The National Narcotic Board should consist of one member chosen from the United States Public Health Service, one from the American Medical Association, one from the Army and one from the American Public Health Association, and one layman, and a national figure.

2. This board should change completely or modify its present regulations.

3. As addicts are hopelessly ill, medical men on the board will understand their management much better than the layman.

4. A central clinic under the supervision of the Health Department, where the drug is given by the doctor himself. It should not be given to the victim to carry. He will return twice daily for his "shot." The patient should pay actual cost of drug. This system will give the victim his drug for approximately 8 cents per grain. Whereas he now pays \$1. Many a victim can pay 8 cents and remain honest. A dollar per grain makes thieves and murderers. This cut-price system will destroy the illegal traffic.

5. A card index system with history of each case should be kept.

6. Hospitalization, preferably on a nearby island, for not less than two years for all users who are otherwise physically O. K., where they could and should work, the product of their labor to be sold to help support the institution. The patient should receive 50 cents per day or \$365 for two years. He should upon release be given this at the rate of \$50 per month. Restored by labor of two years and good food to perfect health, with \$365 in his pocket, the majority will go straight.

7. The federal courts, not the local court, should sentence peddlers.

8. Under the above regulations I believe reporting of addicts should be compulsory, otherwise not.

**William C. Hassler\***—There is but one argument that can be used in favor of making drug addiction reportable, namely, the value such knowledge would be in educating the public to the dangers

resulting from the use of narcotic drugs. The public is impressed by figures, and responds quicker to any effort at correction when numbers face them in an appeal for relief than to preachment. Workers in public health preventive work can point to this fact in past campaigns for the establishment of sanatoria for the tuberculous, hospital beds and institutions for the treatment of cancer, heart disease or the establishment of prenatal and postnatal clinics, and numerous other efforts in preventive public health work.

If the reporting of drug addiction would bring about similar results it certainly would be not only worth while but would be given a whole-hearted support by every respectable physician in the practice of medicine.

If such reporting would be enforced and the figures obtained given to the public it would break the vicious circle that now exists and insure success of the effort many of us are making (in a small way though it be) to bring about a rehabilitation of these unfortunates.

It would also put out of a profitable business many individuals and institutions who do a thriving trade in phoney cures.

It would unquestionably result in the public demanding and bringing adequate federal and state aid to care for the hopeless and incurable as well as hospitals and convalescent farms for the hopeful cases.

It would eventually bring about legislation curbing the manufacture of narcotics and limit their release to the legitimate trade, to the actual needs of the medical practitioner. I believe the manufacture and distribution of all narcotics should be under the same supervision and control that obtains, say, for antitoxin or vaccine virus, excepting that the amount any licensed manufacturer may produce shall not exceed his quota allotted for any year.

It must not be forgotten that all users of narcotics are sick people and should be treated as such. The police have no place in the scheme of caring for and treatment of this class of unfortunates, excepting only insofar as apprehension for crimes committed or in the prosecution of the peddler, who if an addict (and 99 per cent of all peddlers are addicts) should first be subjected to a "so-called cure" and then serve a felony sentence in a state prison. Every state prison should have facilities to treat addicts; or these addicts and the hopelessly long term offenders who are addicts should be removed to a separate institution which undoubtedly it is contemplated to foster.

This would relieve the burden and necessity of supervision, which no matter how honestly prosecuted is hopelessly ineffective and results, because of contacts, in new victims being added to the ranks each year.

The arguments against making addiction disease reportable are equally as numerous as are the beneficial results which might follow if it were a law.

Outstanding is the question of the right of the state to interfere with relationship of doctor and patient. Addiction disease differs from communicable diseases. Are we not already overdoing the regulating of the doctor? No one questions the

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legality and legitimacy of the state's demand to record the births, deaths, and communicable diseases that occur in his practice including the social diseases, but each year adds some new restriction which if given time must finally include him among the dollar-a-year agents of the state.

Would the inclusion of addiction disease among the reportable diseases bring to light the thousands in the United States in the upper strata of society who use drugs any more than it now does those in this stratum who have either of the social diseases? If not, then it leaves us just where we are today, and we could still apply the remedies that experienced workers propose.

Few, if any, of the drug addicts are true patients of the practitioners of medicine. Those who are such are sufferers from some other complication that requires medical attention. All others may be grossly divided into two classes: the chronic hopelessly incurable addict who wouldn't be cured if he could and who is a permanent institutional case, and the other group who want to be cured but cannot under the existing order of things.

There need be no fear on the part of the medical profession or the police that if proper facilities are provided other than an asylum every one of the latter group will voluntarily proclaim himself and seek relief. At least that is our experience covering a period of five years' effort in this work.

I am not in favor of clinics to furnish drugs to the addict. This has proven a failure and holds no premium toward a cure. In effect it advertises an illegal practice, just as the restricted redlight district once did for prostitution.

I am not in favor of making it a reportable disease because such a law is not enforceable, and I doubt whether our courts of law would uphold it, but I am strongly in favor of hospitalization, convalescent farms or retreats, tightening up of the manufacture and limiting the supply, and imposing heavy prison sentences for vendors and peddlers, and a strong social service organization to aid and follow up the work of final rehabilitation.

**Phosphates and Fatigue**—During the World War astounding reports were circulated regarding the promotion of muscular activity and the prevention of fatigue in both man and animals through the administration of sodium phosphate. It was attempted during the war to increase the muscular efficiency of the German soldier by the oral administration of acid sodium phosphate in sub-laxative doses with alleged favorable results. Experiments conducted by the United States Public Health Service indicate that the ingestion of acid sodium phosphate does not increase muscular efficiency, but that there is a feeling of well-being experienced by many who ingest the salt. This probably depends on its stimulating action on the intestinal tract, and is due in part to increased elimination of alimentary waste. Acid sodium phosphate (sodium biphosphate) is more pleasant to take than other saline laxatives and is positive in its effects; those subjects who were constipated felt the beneficial effects of this laxative.—*Journal A. M. A.*

A prize has been offered for the best code of morals for co-eds. Perhaps it will occur to someone to enter the Ten Commandments in the competition.—*Albany Knickerbocker Press.*

Among the things now operated on the installment plan in America is polygamy.—*Macon News.*

## EDITORIALS

### THE INFLUENCE OF SYMBIOSIS ON MICRO-ORGANISMS: THE EVOLUTION OF PARASITISM

Speaking on this subject in Manila eighteen years ago (Philippine J. Science, April, 1908), Musgrave defined symbiosis as representing all phases of association between living organisms, including commensalism and true parasitism, in which either host or parasite is influenced by the other. That address closed with the prophecy that a promising field for research will be found in the study of causes and effects produced by the association of micro-organisms with each other and with their hosts in their environment of complex groups as well as individual symbiosis and the changing conditions in hosts.

Others before have indicated, and several since, that publication—particularly those interested in working out the manner in which animal parasites cause disease—have emphasized the possible group nature of tolerance by hosts and virulence among micro-organisms.

Interest in the problem has been revived recently by Aldo Castellani's able exposition of this subject, the careful study of which by present improved methods offers fruitful promise to patient investigators with a vision.

Reading and reflection on the possibilities inherent in this situation will open up vistas, fire the imagination, and energize the thoughtful investigator to further explore the subject. The action of group on group with group consequences seems quite as important to understand as is the action of an ultimate unit in complex and rarely constant environment.

May it not be that we are inclined to accept carrier, immunity, susceptibility, virulence, non-pathogenic, "balanced" this and that as explanations with too much complacency? What is this and that? What by breeding, what by environment and, over all, what by group association?

There is no reasonable doubt that symbiotic combinations between micro-organisms are responsible for many uninterpreted phenomena in the etiology and pathology of disease.

In animal and plant life from the highest to the lowest forms, we see evidence that certain associations and groupings contribute to virility and growth, while elements in other associations may damage a whole progressive movement quite as effectively as the broken link destroys the strength of the chain.

More light needs to be thrown on the metabolism of host and parasite. We have evidence that changes in symbiosis may produce changes in metabolism and in consequence changes in the pathogenicity of parasites and the susceptibility of hosts. This quite independent of the volume of influence.

That the virulence of pure strains of bacteria are decidedly influenced by the physics and chemistry

of their environment is too well known to warrant discussion. We also know that virulence is even more profoundly effected by the biology of environment, but our understanding of these processes is still far from satisfactory, and in increased knowledge lies great promise.

Life among all living things is perpetuated by reproduction; its extension and accomplishments are largely determined by environment in which association with other living things is quite as influential and needs further study among micro-organisms as it does in man. Friendly associations lead to groupings (symbiosis) which may be mutually helpful; many associations singly or in other groups are harmful and in this warfare with ever shifting fronts, life—microbic or mammalian—is the pawn.

A promising approach to the understanding of specific elements of lower animal life is through a better understanding first of the groups, symbiotic and detergent, in which they have their being and the nature of which surely is largely determinative of their possible danger to man. The most hopeful approach to further understanding of symbiosis appears to be through the study of mixed cultures of ameba and bacteria, this because of the ease with which the animal and vegetable elements may be distinguished under all circumstances and because this type of association seems to be an almost constant, if indeed not an essential one, to the perpetuation of the animal life in extra parasitic existence.

Baumgarten, thirty-six years ago (1890), suggested the probable co-operation between ameba and bacteria in the production of dysentery, and Janowski seven years later called attention to the probability that symbiotic bacteria may determine the parasitic and pathogenic possibilities of ameba in nature and that such specific symbiosis may be carried unbroken into the intestine or that it might be formed in the bowel.

Many years' work with amebas and amebiasis at the bedside, in the morgue and in the laboratory, led this editor inevitably to a similar conclusion and now, many years later, a review of the literature and that work but adds to the conviction of the soundness of these conclusions. Amebas in natural environment, in cultures or within the intestine, with rare exceptions lead parasitic lives in that they feed upon or in some other way sustain life at the expense of other micro-organisms or the living tissues of a host. This symbiosis, even when the parasites are in a mixed bacterial environment, is more or less specific, for certain of the bacteria and the specific character of the symbiosis may be changed in cultures or even largely eliminated.

The whole question of the evolution of parasitism is of intense interest and of great practical importance. It is within the bounds of possibility that the processes of parasitism even in its greatest selectiveness, as for example of tetanus toxin for the nervous system and certain trypanosomes for the cerebrospinal fluid, is evolutionary and there is evidence tending to support this hypothesis with more reason than is sometimes used in explanation of other phenomena having to do with biology and pathology.

In any event, the student will be rewarded for

his pains by studying what for want of a better term may be designated, the animal instincts shown by amebas in culture toward new elements introduced into their environment.

### HEALTH MERGERS

The extensive creation of mergers, financial, industrial, commercial, and what-not, are among the most significant movements of recent years. The chief new or recent feature of the idea is the name merger, which suggests that a name may have something to do with the odor of a rose.

Another recent feature of the merger movement is its increasing application to matters of health, sociology, relief, charity, thereby introducing elements calculated to influence the very foundation of society and affect profoundly every individual.

The philosophy of mergers is the same, whatever the field of endeavor, and they are therefore worthy of serious study, particularly when they invade established human-service occupations.

The heart of any merger is centralized, more or less autocratic control, and while this may, and doubtless often does, insure advantages in material matters, it may not follow that it will be equally efficacious in dealing with those moral, social, and charitable attributes which are inherent in individuals, which are in a state of flux and may not be measured in material terms.

Unquestionably, well conceived and intelligently conducted mergers, whatever the field covered, may reduce waste, duplication of effort, and thereby increase the purchasing power of the dollar, stabilize and standardize production and change competition between individuals to group competition, or even replace competition by price-fixing methods. There are examples all about us in mergers of many classes and sizes that supply ample evidence of this fact: encouraging so far. However, when mergers enter the field of sociology, health, and other human services heretofore peculiarly personal, other and vastly more difficult problems arise. It may be possible even here to save dollars by standardizing the treatment of frailties, infirmities and shortcomings of mankind en masse and serving them through mergers also standardized; but what of the individual? Can we succeed in pouring into a common hopper operated by organized effort, service, and the blessed spirit of service, that is an inherent individualized quality of man, and grinding out stereotyped relief to meet the highly individual needs of others with safety?

"Health" mergers, to be more specific, are prominently to the fore, and they are proceeding apace from merger to supermerger—at least on paper and in the intent of sponsors. Extensively mergerized health, medical, social, and spiritual welfare, doubtless would simplify giving and serving and insure at least a steady income and regular hours to those who serve. It would reduce the matter of support to paying taxes or writing a check to the merger periodically—but would it not also tend to simplify life for the supplicants and beneficiaries? In this respect the results of the "dole" and the consequences of mergerized medicine in certain countries



is illuminating, and there are interesting lessons closer home that may be studied with profit.

It has been postulated and confirmed by experience that many human-service needs, the most crying ones, are too highly personal to be met by other than individual service, in the rendering of which both parties receive something that enriches life, encourages thrift, self-reliance, hope, faith, and charity. While these virtues are sublimated by individual contact or even by groups with common feelings and purposes, they may not blend well in the mills of mergers, and we might do well to carefully study the subject before we endorse current trends too wholeheartedly.

#### ALLEGED MEDICINAL VIRTUES OF CARBONATED BEVERAGES

The physiological and therapeutic actions of carbonated beverages have been recently discussed by J. Louis Neff of Brooklyn, New York, for the benefit of physicians. Lest there be some misconceptions from, or hasty actions on the basis of, this discussion it is worth while to consider the merits of the reasons advanced for the therapeutic effects claimed. It seems that Mr. Neff had no selfish motives in bringing this question before the medical profession, but it is quite apparent to the critical reader that he has left out of consideration much that the physician must know before he is justified in prescribing proposed therapeutic agents, and some things that will not bear scrutiny in the light of physiological and chemical researches. The more important items may be discussed in the order in which they appear in the article in question.

Regarding the alleged correction of acidity from the absorption of carbonic acid and its conversion to carbonates, the latter is only true, providing alkali-forming ions (sodium, etc.), are available for combining with the carbonic acid. Carbonic acid is a weak acid and cannot convert sodium chloride and similar salts ordinarily appearing in the alimentary tract into sodium bicarbonate. Hence, it would be absorbed as such. After absorption it probably would react with the alkaline sodium phosphate according to the following equation

$$\underbrace{\text{Na}_2\text{HPO}_4}_{\text{alkaline phosphate}} + \underbrace{\text{H}_2\text{CO}_3}_{\text{carbonic acid}} \rightleftharpoons \underbrace{\text{NaHCO}_3}_{\text{bicarbonate}} + \underbrace{\text{NaH}_2\text{PO}_4}_{\text{acid phosphate}}$$

which indicates that the reaction is reversible. The net result would be no more than an increase in the blood of the originally absorbed carbonic acid, which, however, dissociates into carbon dioxide and water, the gas being excreted by the lungs, and the water by the kidneys. Therefore, the only effect that could occur from the absorption of carbonic acid would be a temporary carbon dioxide acidosis, but this is of no great consequence as long as the respiratory center, lungs, and kidneys are functionally responsive in the usual manner. Obviously the presence of buffer salts prevents important changes in hydrogen ion concentration of the blood, a fact borne out by the negative influence on blood reaction after the injection of stronger acids than carbonic acid. Free alkali and protein (from food) in the alimen-

tary tract would probably bind the carbon dioxide, a part no doubt being absorbed as bicarbonate, which would temporarily increase the alkali reserve of the blood and then be promptly excreted in the usual manner.

Everyone will concur in the statement that most of the gas (carbon dioxide) is lost from the stomach by eructation after swallowing a carbonated beverage, and hence only a small and negligible proportion reaches the intestine, Mr. Neff's impression to the contrary notwithstanding. The effects of swallowing carbonic acid in the form of carbonated beverages are chiefly local and there is no absorption of the gas from the mouth and stomach. The effects consist of slight local irritation of the mucosa and this suggests a possible explanation of the eructation, which may occur from reflex stimulation of the stomach. In case the entire stomach should share in the increased motility, this might explain the somewhat more rapid passage (not absorption) of the stomach contents into the intestine. In addition, some slight stimulation of gastric secretion is conceivable, but has not been conclusively demonstrated. Unfortunately for the motility effects, Professor Carlson was able to show only an inhibition of hunger contractions and gastric motility in dogs, and in his fistula subject, who received carbonated drinks directly into the stomach.

In view of the probable small absorption of the gas into the system, there would be a negligible increase in respiration and ventilation of the lungs, and, therefore, in the alleged increased oxygen invoked for any curative effects. The effects visualized along this line are apparently based on the results of certain physiological experiments (rebreathing, etc.), which are not at all comparable with the drinking of carbonated beverages. Furthermore, the interpretations of these physiological experiments vary with the investigators. It certainly does not follow from experiments on rebreathing or inhaling carbon dioxide, in high concentrations, that carbonated beverages would be beneficial in poisoning from carbon monoxide, or in other asphyxial states, no matter what the reputation of drinking carbonated beverages among gas men may be. One naturally thinks of the more likely possibility of beneficial effects from reflex stimulation by the beverages than from any absorbed carbonic acid. Even if it be conceded that absorbed carbon dioxide results in improved ventilation and increased blood oxygen, the latter may not be needed, for it alone cannot restore injured blood and tissues, and other treatment may be imperatively needed. Moreover, the respiration soon adjusts the blood gases to the needs of the body. Finally, a persistent increase in oxygen may be detrimental, for overventilation results in respiratory stoppage and other symptoms.

Although some bacteriostatic action may be present in carbonated beverages, yet some bacteria and spores remain viable, and, therefore, there is not enough germicidal action to warrant the general recommendation that tourists, hikers, and campers supply themselves with these beverages in order to avoid the dangers of typhoid, etc. This advice is believed not to rest on the soundest judgment and is not to be compared with the common expedient of

boiling water for securing germicidal efficiency, and economy.

The generalization on fruit acids, as in ginger ale, claiming oxidation into carbonates and a consequent increase in alkalinity of the blood, and therapeutic indications in acidosis, fevers, toxemias, etc., is far too sweeping and based on erroneous conceptions of the fate of fruit acids. The fruit acids (citric, tartaric, malic, etc.) are oxidized to carbonic acid, which combines with any available alkali; and, therefore, the net result must be a deprivation of the alkali reserve of the body proper. This loss is accounted for partly by the presence of some excreted sodium bicarbonate (from the oxidized acids) and partly by the increased phosphates in the urine, a part of the  $\text{CO}_2$  escaping by way of the lungs. The presence of these salts in the urine gives this excretion an alkaline reaction. The net result for the body proper can only be a tendency to acidosis. Therefore, the fruit acids are contraindicated in acidotic conditions. The easiest and simplest way to treat acidosis is by the administration of sodium bicarbonate, and not with carbonated beverages.

Whatever the virtues of pure ginger, or of substitutions or additions such as capsicum, in ginger ale, these are probably discounted by the unpleasant and biting irritation experienced by many, and by the inhibitory influences that such condiments have on gastric motility, hunger contractions, etc. Their effects may be purely mental, just as is now believed to be the case with many simple bitters. For some they appear to be mere placebos, somewhat comparable to the large variety of humble, domestic accessories of our dietary.

It is apparent from all this that the alleged medicinal virtues of carbonated beverages do not rest on a sound physiological basis, and properly speaking they cannot be considered in the category of therapeutic agents. Any virtues they may possess are accounted for by their content of water. It is difficult to imagine a single rational indication for ginger ale and related carbonated beverages. On the contrary, they have the disadvantages of possibly obscuring and preventing the diagnosis of disease, if used seriously as remedies, and they are unnecessarily expensive. They are not necessities, but are to be classed as luxuries. There is no good reason why they should be classed with foods, but some regulation of their sale may nevertheless be desirable, for a reasonable degree of cleanliness in their preparation, a knowledge of their bacterial content, and the elimination of harmful coloring agents, flavoring vehicles and aromatic constituents, etc., are some among other considerations that merit the attention of law enforcement authorities for the protection of the public.

Neff, J. L.: *Long Island Med. J.*, 1926, 20: 349. "The Carbonated Beverage, Its Physiologic and Therapeutic Action."

Editorial: *Long Island Med. J.*, 1926, 20: 377.

### SPEAKING OF DOCTORS

The young, adequately prepared physician stands at the threshold of his career the most expensively educated and trained of all people. Even the oft-published figures of these investments are sobering

and if we add to them, as we should, the costs of those who fail during the course of their preparation, those who for one reason or another do not become producers after they are educated, and add costs of personal existence and reasonable income that might have been earned during the some eight to ten student years, the young doctor enters his work the most expensive investment now made to develop human competence.

This cost has been steadily increasing and it is not likely that it can be decreased, nor further increase prevented.

We have already reached a position where the average income of the physicians of the United States is less than 6 per cent interest on a fair calculation of the amount invested in their education; this without taking into consideration the extra hazards incident to the vocation and without providing a sinking fund to care for these hazards, to say nothing of provisions for recreation and further study.

While we may not be able to reduce the investment required to produce a doctor, we can and should do things that will increase the income on the investment without passing the increase on to others, including the individual patient or public we serve. By far the most important step in this direction, from the point of view of medical economics, would be a rearrangement of the services of the growing number of technical assistants to doctors so that they would work more as the assistants they are trained to be and thereby extend and make more effective the service of the physician. This we could do if we pleased, as it is being done by many individual physicians and groups of physicians. To accomplish it on a larger scale necessitates the development of mass responsibility, expressing itself through well-conceived organization with definite and positive purposes. Our failure to move forward with the times in this respect is responsible for the handicap under which we are struggling today.

There is little reason to expect correction of this situation by the present generation of physicians, and until the idealism of our methods of preparing young physicians is leavened by a little more intelligent information of the practical affairs of life, there is not much apparent reason for hope for oncoming generations of followers of our beloved calling. However, we can't see around the next corner, and desperate needs usually find men to meet them.

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The human race is growing sick of itself. That this sickness is feverish, that we demand more changes, more faces, more whirling contacts in city crowds, is only a symptom of the disease. It is good to leave Main Street now and then to sharpen home-keeping wits, and it is true that frequent association breeds intelligence, yet the whirl of consecutive and diverse impressions in which modern man is daily spun is more than can be endured without morbid reaction. We have multiplied mental contacts until they have become unaccountable.—*The Saturday Review of Literature.*

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**Ovarian Residue Soluble Extract (P. D. & Co.)**—A solution of an extract of desiccated beef and hog ovaries, from which the corpora lutea have been removed, in physiological solution of sodium chloride, each cc. containing 0.04 gm. of soluble extract. The actions and uses of ovary preparations are discussed in *New and Non-official Remedies*, 1926, p. 269. The product is marketed in 1 cc. ampules. Parke, Davis & Co., Detroit.

## MEDICAL ECONOMICS AND PUBLIC HEALTH

Doctor Langley Porter of San Francisco, who has been in Europe for the past two years, sends us clippings of a debate before the Hunterian Society of England recently on "Medicine and the Press."

Lord Riddell, speaking as a newspaper publisher, made the charge that, while the big fish in the medical profession could do very much as they liked, the smaller ones, either through fear, threats, or force, were caught in the net. The whole question of advertising required to be reconsidered. He had sympathy with the objects in view, but could not see why it should be illegal for a doctor to write a newspaper article when he could write exactly the same matter in a 5s. book.

Sir Humphrey Rolleston, speaking for the medical profession, said that everyone agreed that the public should be well educated in the laws of health, *though the less healthy people knew about disease the better for them.* Any danger which might result from reading about symptoms of disease would be obviated by everyone undergoing a thorough overhaul by a doctor once a year. The main question on which the press and the medical profession differed was whether or not articles should be signed by medical men in practice. Medical men who signed such articles inevitably gained financially, but there could be no objection to men not in practice or who held official positions issuing warnings about disease. Articles on general hygiene were good, but not on specific cures.

Mr. W. J. Evans, late editor of the *Evening News*, said he could not see any harm in signed articles telling people what they knew already—[laughter]—and there was this to be said for the doctors that they did write their own articles. [Laughter.]

Dr. Graham Little, M.P., asserted that much of the stuff which the newspapers printed as medical information was mere piffle, and there was a great danger in the premature publication of unsubstantiated scientific knowledge. It was a bad thing for the public to be always thinking about their health. It made them morbid, and more patent medicines were consumed in this country than in any other country in the world.

Thus the merry war goes on. Physicians who can make the subjects of health, hygiene and medicine attractive enough to the average reader to make them of much value can make more money with the pen than they can with scalpel and pills. The chief trouble is, that one can count on the fingers of the two hands all the educated ethical doctors of medicine who have made creditable names for themselves in popular medical writing. On the other hand, such attempts have blasted, and are blasting, reputations by the hundred.

The health record of the industrial populations of the United States and Canada during the first nine months of 1926, while by no means unsatisfactory, has not been quite up to the standard of recent years. The fact is that 1926 had a bad beginning, as the result of the widespread prevalence of influenza and pneumonia during the early months. This situation itself appears to have cleared up, since, up to the middle of October, there have been no particular indications of an autumn recrudescence of influenza or influenzal pneumonia. As is invariably the case when we have above-average prevalence of mortality from these diseases, there has been, this year, a rise in the death rate from organic heart disease and chronic nephritis. Other factors which have operated unfavorably this year have been outbreaks of measles and whooping cough. These bid fair to be reflected in the highest death rates in a decade. We have also had smaller increases in the mortality from cancer and diabetes.—Statistical Bull., Metropolitan Life Ins. Co.

Backward, Turn Backward O Time in Your Flight  
—Marco Polo, says *The Nation's Health* in writing of

the natives of India in the latter part of the thirteenth century, said:

"They drink out of a particular kind of vessel, and each individual from his own, never making use of the drinking pot of another person. When they drink they do not apply the vessel to the mouth, but hold it above the head and pour the liquor into the mouth, not suffering the vessel on any account to touch the lips. In giving drink to a stranger, they do not hand their vessel to him, but, if he is not provided with one of his own, pour the wine or other liquor into his hands, from which he drinks it, as from a cup."

In a recent survey of the health of children preparing to enter school throughout the state, it was found that every 100 children were suffering from 260 defects, mostly of minor character that could be corrected, and that approximately 75 per cent of all the children were in need of medical attention.—U. C. Clip Sheet.

We feel that the more than 4000 members of the California Medical Association who own and publish CALIFORNIA AND WESTERN MEDICINE are entitled to the information that Armour & Company have withdrawn their advertising co-operation with us, as well as all the other medical journals owned and published by state medical associations.

From time to time one hears complaints regarding the work of county and other public health nurses. These complaints come chiefly from members of the medical profession in various parts of the state and generally relate to the overzealousness of the county or city nurse in the matter of making provisional diagnoses and sending patients out of their own localities to state or other public institutions for treatment when, in many instances, all necessary treatment for such patients could be secured at home. In some instances the county nurse seems to feel that she is working for the state or other outside institutions. Just how and where so many public health nurses become imbued with this idea does not at present appear.

The county nurse is employed by and receives her salary from the county board of the county in which she contracts to work. The remedy for any such unwarranted assumption of authority or ability on her part lies in a direct appeal to the county board by members of the local medical fraternity. For the purpose of investigating and following to a conclusion any alleged unwarranted assumption of responsibility on her part and also for the purpose of assisting her in the solution of the different problems that arise almost daily in her work with the public, a standing "Public Health Committee" appointed by the county medical society would provide a group of medical men to whom she could go at any time with her problems and whose decisions and actions would have the authority and sanction of the organized medical profession of the community. Allowed to run wild and uncontrolled, she may become the medium through which much that is disorganizing and much that tends toward the establishment of that most unfortunate condition—*state medicine*—may be made to loom large upon our horizon.

Here again is an instance in which the local or county medical society should assume leadership in local medical matters. The appointment of such a committee as that above suggested should be the means of bringing the laity and the medical profession into a closer sympathy and understanding of medical matters in their respective communities.—Joseph F. Smith, Wisconsin M. J.

The time has come for a change in the relation of science to society. If indeed this knowledge is sound, if it represents reality and mirrors truly the circumstances and conditions of life, then it must enter into life and become a part of life. While it is important that knowledge be applied and made useful, it is vastly more important that the method by which this resource is gained be made the habit of thought in daily living.—C. E. McClung, *Science*, December 10, 1926.

Virtue consists, not in abstaining from vice, but in not desiring it.—Bernard Shaw.



## - The MONTH with the EDITOR -

Notes, reflections, comment upon medical and health news in both the scientific and public press, briefs of sorts from here, there and everywhere.

Collected Reprints from the George Williams Hooper Foundation for Medical Research (Vol. X, 1925-26), maintains the high standards of excellence set in former volumes.

No more important work is being done anywhere than that produced in this splendid institution. It is too bad that the normal growth and influence of the Foundation must be limited by lack of funds.

"In our last long rest all that we can keep is what we have given away." This quotation on the front cover of the Twenty-Third Annual Report of the Barlow Sanatorium Association (1926) is indicative of the splendid spirit of service that has characterized this remarkable institution for more than twenty years.

The Sanatorium is for tuberculous patients of Los Angeles County.

Dr. Ernest S. Bishop, known around the world for his work in narcotic addiction, died at his summer home in Blandford, Massachusetts, Monday, November 15.

Doctor Bishop, who was born in Pawtucket, Rhode Island, November 29, 1876, was graduated from Brown University, where he won recognition as an athlete in 1899, and from Cornell Medical School in 1908. From the medical school he went to Bellevue Hospital as an intern, remaining there as resident physician until 1912.

Doctor Bishop was clinical professor of medicine in the New York Polyclinic Medical School, visiting physician to Saint Joseph's Hospital, and consulting physician to Saint Mark's. During the war he served in the army as a diagnostician. He was a Fellow of the American College of Physicians, of the New York Academy of Medicine, and the American Public Health Association, and associate editor of the *American Medicine*. His publications include "The Narcotic Drug Problem," which has run into several editions.

At a time when science is proclaimed the chief reliance of organized society in securing its perpetuation; when through its ministrations human life is materially lengthened, made more effective and enjoyable; when the uncertainties of existence and the terrors of the unknown are yearly being reduced in significance, then we witness the paradox of vicious and unreasoning assaults upon the methods and conclusions of science by legislative enactments to cripple its progress and to limit its teaching.—C. G. McClung, *Science*, December 10, 1926.

"Abrams' College Proves Thin Air." Under these headlines the San Francisco *Chronicle* tells the pathetic story of "the late Dr. Albert Abrams' dreams of a college of 'electronic medicine,' housed in a ten-story building."

According to the *Chronicle's* story this grandiose dream "has crystallized into an actuality of \$250 worth of medical books and \$1070 worth of instruments. The eccentric doctor, who attained nation-wide notice with his startling theories of electronic diagnosis and treatment of disease, left one of the longest wills ever filed locally. He believed he was creating an ironclad trust fund for his projected college, but an inheritance tax report filed in the Superior Court yesterday by Richard F. Mogan, State Inheritance Tax Appraiser, is graphic evidence of failure.

"Receipts from the rental of the 'electronic' machines he invented for the treatment of disease, a fertile source of income during the doctor's life, decreased to almost nothing after his death three years ago."

There was nothing unique in Abrams' methods. In a general way he followed the methods of Perkins with

his tractors and Bishop Berkeley with his tar water. They all succeeded in getting the most effective part of their advertising free through the reading columns of the public press. The most potent force in bringing this about was in challenging the medical profession to disprove their claims. Such challenges have been frequently made by other cure-all promoters, but not many of them have succeeded in inducing great medical organizations to pay any attention to the challenges and in consequence they have had to buy their space in the advertising columns of the public press.

There is no doubt but that had Abrams had to pay current rates for the advertising the newspapers gave him freely during the few years of his lurid career, the \$771,181 estate he left would have absorbed into the advertising income of newspapers.

Abrams, Perkins, and Bishop Berkeleys are still numerous, but managers of great newspapers are growing wiser, and more and more of these gentry are being referred to the advertising managers of papers, who demand checks to pay for publishing their stories; and in growing numbers of great metropolitan dailies space is not even for sale to traffickers in health for a price.

Studies of the relation between the character, amount and distribution of hair and idiocy have been carried on from time to time. Recently the subject has had quite an airing in the public press abroad, due largely to a report at the first Malcolm Morris Memorial lecture at the Royal Society of Medicine of Great Britain by Sir James Crichton-Browne on a conjoint investigation undertaken by him and Sir Malcolm Morris a number of years ago.

Accepting the then approved doctrine that the cerebro-spinal nervous system and the skin are both developed from the outer layer of the embryo, it occurred to Crichton-Browne and Morris that any arrest of development in one might be accompanied by an arrest of development in the other. So they decided to inquire into skin conditions in the mentally defective.

They examined 554 congenital idiots, and found in them characteristic changes in the skin, hair, and nails. The departures from the normal were of various kinds, including external thinness and fineness of the skin, roughness, or fish-skin, as it is called, and special diseases.

In a remarkable number of persons a growth of fine downy hair, beginning at the nape of the neck, and running down the back, between the scapulae, something in the nature of a mane, had been noted.

We are only beginning to understand that there is bound up in the quality, quantity and distribution of the hair stories of untold value in the interpretation of abnormal phenomena, but the significance of the findings are still exceedingly obscure. Further studies in endocrinology and particularly of lymphoid tissues offers great promise of enlightenment.

One thousand and eighty-four children were given physical examinations in the nine child welfare centers of the Department of Public Health during the month of October, according to William C. Hassler, City Health Officer of San Francisco. Four hundred and ninety-four of these were children under 6 months of age; 220 were between 6 months and 1 year; and 370 between 1 and 6 years of age.

We wonder if some of these should not have paid fees to private physicians for their medical service. There are many competent doctors in San Francisco and elsewhere who are having a harder time earning enough to house, feed and clothe their own families because of govern-

ment competition in the practice of medicine among those who are well able to pay.

Recent investigations have traced the origin of the Los Angeles County Medical Association back to 1850, at which early date a published fee schedule was in existence.

Now that the Supreme Court of the United States has decided by a 5 to 4 vote the maximum amount of alcohol a doctor may legally give to his pneumonia patient, why not have that learned body decide the maximum dose of antitoxin a doctor may give his diphtheria patient or the conditions under which he may legally operate for appendicitis?

Is the time coming when Congress and the Supreme Court, possibly advised by the Department of Labor or the Children's Bureau, may reduce the practice of medicine to a legalized formula?

The day of the nurse trained solely in the work of tending to the comfort of a patient is over, and her place is being taken by scientifically trained women capable of performing many tasks formerly taking the time of physicians, according to Mary May Pickering, R. N., director of the University of California training school for nurses.—U. C. Clip Sheet.

Is it possible that this is coming? If so, it's about time for medical students to study for some other calling.

Human kind is slow to learn; what it acquires in one generation it loses in the next. Great truths evolving from everyday experience make but difficult way into the consciousness of the average person and eventuate but seldom in guided action. Nations rise and fall into decay and others follow the same course to the same end without profit from the evil example. For every generation and every individual, constant repetitions of the most elementary truths are required to save them from destructive courses.—*Science*, December 10, 1926.

A group of 150 physicians are planning to build another hotel-hospital to cost \$4,000,000. The hotel-hospital idea is developing rapidly in many urban centers. The idea is sound and it is likely to travel far.

Ambitious advertising optometrists in certain urban centers are adding statements like this to their newspaper advertisements: "Eye, ear, and throat specialists always in attendance to advise when medical attention is necessary."

Thus another link is being forged in the ever lengthening chain of that kind of medicine which makes of the doctor the "hired man" of business.

Reminiscences by George Henry Fox (New York Med. Life Press): is a delightful book, containing as it does many sidelights on medical history, as well as more direct information about the lives of a family of doctors. Every physician will find much that is amusing and culturally beneficial in a perusal of these reminiscences, and the many friends and students of Doctor Fox will find more intimate and significant things to appreciate and enjoy.

Syphilis and Human Milk—G. Schwarz (Muench. med. Wochenschrift, Jg. 72, No. 45, p. 1916)—The author examined the milk of two syphilitic women during the latter part of their lying-in period, and was able to establish a positive Wassermann reaction in both cases. It is suggested that it would be very interesting to examine the milk of a comprehensive series of syphilitic patients during this period and also to inquire into the question of the infectiousness of human milk in general, since opinion concerning these questions differs considerably.—Abstract Service, H. A. Metz Laboratories.

## CALIFORNIA MEDICAL ASSOCIATION

W. T. McARTHUR, M. D. \_\_\_\_\_ President  
 PERCY T. PHILLIPS, M. D. \_\_\_\_\_ President-Elect  
 ROBERT V. DAY \_\_\_\_\_ Vice-President  
 EMMA W. POPE, M. D., San Francisco \_\_\_\_\_ Secretary and Associate Editor for California

### ALAMEDA COUNTY

**Tribute to Doctor Nusbaumer**—The regular meeting of the Alameda County Medical Association was held Monday evening, December 20, 1926, at the Ethel Moore Memorial Building. The program was prepared and presented by the staff of Merritt Hospital, after which Dr. E. N. Ewer read a tribute to our late secretary, Dr. Pauline S. Nusbaumer:

"Once more the hand of death has fallen heavily upon this Association in the passing of Pauline S. Nusbaumer.

"Doctor Nusbaumer was born in Mount Eden, Alameda County, October 15, 1858, and several of our members present this evening to do her honor knew her as a school



PAULINE S. NUSBAUMER  
1858-1926

girl in Pleasanton. They have told of their pride in the privilege of her friendship during the many years in which she developed from girlhood, spent in the healthful environment of a California ranch, to the influential position she occupied in the medical profession of this state.

"How influential she was is well expressed in these words of one of our former presidents: 'In the fifteen years in which I have known her, I have come to regard her as the greatest single influence in Oakland in the way of unifying the local medical profession and furthering the practice of ethical, scientific medicine.'

"She was graduated from the Women's Medical College of Philadelphia in the year 1900 and immediately began the practice of general medicine in Oakland. Her outstanding personality won her the respect and love of all who were fortunate enough to come within the sphere of her gentle influence. Her professional success was an early response not only to personality, but to real ability.

"After a few years in general practice she became inter-

ested in the laboratory side of medicine, and for a time maintained the only diagnostic laboratory in Oakland. She was soon made city bacteriologist, in which position her efficiency was put to the severest test during the threatened epidemic of bubonic plague in 1907. So conscientious and thorough was her work during this period, that her technical examinations were correct in each instance. They were reviewed and invariably confirmed by the National Public Health Service on watch to prevent the spread of this formidable disease. During the preceding year, when the Health Department was occupied with the extraordinary conditions thrust upon it by the establishment of the refugee camps after the earthquake and fire disaster in San Francisco, her work was of the highest quality and importance.

"Her usefulness to organized medicine was recognized by her repeated election to the secretaryship of this her local society, in her yearly attendance upon the meetings of the California Medical Association where she was usually a delegate and where her importance was always felt, and finally in her selection in 1923 to the office of president of the Alameda County Medical Association. Under her presidency the excellence of the programs and the social features she introduced resulted in a marked increase in membership and attendance.

"In addition to her medical association activities she was a member of many charitable organizations and civic societies, to which she gave of her energies without stint and usually in the capacity of a leader.

"During her busy life, active to within a few weeks of the end, she gathered about her a host of devoted friends from all walks of life, and they will long cherish her memory for the woman she was, sweet and loving of disposition, kindly of heart, charitable and, above all, the sympathetic physician. If she had faults we know them not."

#### RESOLUTIONS

*Whereas*, Our beloved friend and co-worker, Pauline S. Nusbaumer, has been removed by death from her earthly activities and triumphs; and

*Whereas*, She occupied the position of president of the Alameda County Medical Association during the year 1923; and

*Whereas*, At the time of her passing she was secretary and treasurer of our Association, conducting the office with dignity, kindness, and excellent judgment to the admiration of all; and

*Whereas*, Many years of her life were spent in the self-sacrificing duties of bacteriologist in the Public Health Service of Oakland; and

*Whereas*, She represented, during a long lifetime, the best in the glorious achievements of medical professional womanhood; and

*Whereas*, In addition to her devotion to her profession she was a valuable worker in all worthy movements for civic uplift, therefore be it

*Resolved*, That we, the Alameda County Medical Association, in sorrowing conclave, do hereby lament our great loss, and manifest our deep regard and affection for her memory; also be it

*Resolved*, That we hereby extend to her bereaved family our heartfelt sympathy; and be it further

*Resolved*, That these resolutions be inscribed in the minutes of this meeting.

**Memorial Service for Doctor Buteau**—On Thursday, November 18, the staff of Samuel Merritt Hospital gathered in the rooms of Dr. William A. Clark at the Hotel Oakland for the purpose of holding a memorial service for the late Dr. Samuel H. Buteau, deceased president of the Board of Trustees of the institution.

Several organ selections were rendered by Dr. W. A. Clark.

Opening the meeting for the staff, Mr. William B. Bosley spoke at some length regarding the unflinching devotion of Doctor Buteau in the interests of Samuel Merritt Hospital. He recounted many instances of time spent in careful thought and his unflinching ability in carrying the institution through many critical periods.

Following Mr. Bosley, Judge Everett Brown spoke feelingly of Doctor Buteau's intense patriotism and his unflinching interest in all civic affairs, and on behalf of the

family presented the staff with a picture of Doctor Buteau done by his niece, Bernita Lundy.

Dr. Hubert N. Rowell delivered an eloquent eulogy, and in conclusion the following resolutions were read by Dr. E. Spence DePuy for the staff, and adopted by a rising vote:

#### IN MEMORIAM

The members of the staff of Samuel Merritt Hospital, gathered in special session for the purpose of holding a memorial service for our friend and late colleague and comrade, Dr. Samuel H. Buteau, desiring to give formal though inadequate expression to our sentiments of respect, esteem and affection, feel impelled to state our appraisal of him was not only a really great physician, but in all respects a truly splendid man.

Men are regarded and loved partly for what they are and what they stand for, and partly for what they are not and what they stand against.

Samuel Buteau stood for righteousness, courage and tasks well done. He stood for lofty ideals, for poetic fancy and all that is fine and true. He stood for high emprise and lived the things he taught, and other than this no man can do more.

A practical man, he appreciated the necessity of compromise with honest differences, yet never did he descend to those ignoble agreements which require the substitution of motives of a baser kind.

Part and parcel of our friend was his exemplary pride in the institution he was so great a factor in establishing upon its secure foundation; and even more in the men who, through precept and example, he stimulated to exert themselves worthily, and to whom he imparted the results of his ripe experience and tireless search for the means of accomplishing better surgery.

Samuel Buteau stood ruggedly against selfishness, self-seeking and self-aggrandizement. Modest to a degree, out of the nobility of his soul he frequently shared with others honors and praise that lesser men would have captured for their own.

How really great was the character of this man, our friend, we are still too close to his living presence to appreciate. Only time will show us how wise a counselor we have lost; only time will show us how sadly we shall miss his strength. The quiet, heartening encouragement that in times past we have taken so much a matter of course we shall now find ourselves without, and in vain shall we listen for the words that took the sting out of failure and so kindly soothed our ruffled hurts. He encouraged us when despondency or discouragement beset us; he showed us how not to feel chagrined at some failure to achieve a hope longed for, and heartened us when we failed in the accomplishment of a purpose too great for our small abilities.

Big with the thoughts that little men may never feel, the dreams that a practical man may vision, all the days of his life he must have known the irksome and hampering limitations which flesh puts upon us all. With patience he allowed a frail habitation to possess his soul, and now that soul, that man himself, freed of the encumbrance of a shell that can never be the permanent clog of the really great, has been released to a freedom for service where time, space and mundane handicaps lay no burden upon the self that reaches toward the things that may not be accomplished on this earthly plane.

Selfish in our grief at the passing of a friend upon whom we had learned to lean, yet should we not let such a feeling blur our minds to the fact that the loss is ours, not his, and that his death ought but to prove to us that through merit he has earned a release for which we, less fortunate, must await our time with patience, and envy not him whose liberation has come as a reward of faithful, honest service.

*Resolved*, Therefore, that we, the members of the staff of Samuel Merritt Hospital and the friends of our departed leader, regret the loss we have sustained and hope that each of us may profit by recollection of the example of manliness, courage and lofty ideals of our absent friend, Samuel H. Buteau, surgeon, guide, man and friend.

*Resolved*, Further, that a copy of these resolutions be sent to the family of our late companion; and

*Resolved*, Further, that a copy of these resolutions be



spread upon the minutes of the staff of Samuel Merritt Hospital.

November 23—The trustees of Samuel Merritt Hospital met in special session to appoint a new trustee to fill the vacancy caused by the death of Dr. S. H. Buteau. Desiring to have as one of their number one whose qualifications would be of greatest value to the hospital, the trustees sought an expression of opinion from the members of the staff. As a result of this conference, Dr. George G. Reinle, chief of the urological department, was selected to be a member of the Board of Trustees and the one charged with active responsibility for the hospital's smooth functioning.

Dr. O. D. Hamlin, president of the staff of Providence Hospital, sustained a fracture of the lower end of the femur and is now patiently waiting for nature to repair the injury.



#### CONTRA COSTA COUNTY

**Contra Costa County Medical Society**—The annual banquet of the Contra Costa County Medical Society was a very delightful affair this year, being held on December 4 at the Hotel Oakland.

Afterward the Society enjoyed seats at the Fulton Theater.

Those present at the banquet were Dr. and Mrs. William A. Rowell, Dr. and Mrs. J. M. McCullough of Crockett; Dr. and Mrs. S. N. Weil of Selby; Dr. and Mrs. P. C. Campbell, Dr. and Mrs. H. L. Carpenter, Dr. and Mrs. W. E. Cunningham, Dr. and Mrs. L. St. John Hely, Dr. M. Deninger Kaser, Dr. Rosa Powell, Dr. U. S. Abbott, Dr. A. Hedges, Mrs. Moro Corvine, Mrs. J. O. Redman, R. N., Miss Agnes Driscoll, R. N., Mrs. Freda Viteline, R. N., of Richmond; Dr. and Mrs. M. J. Fernandez of Pinole.

S. N. WEIL, *Secretary*.



#### KERN COUNTY

**Kern County Medical Society**—The Kern County Medical Society held its regular November meeting, November 18, 1926, at the Kern General Hospital. It was strictly a business meeting followed by a light banquet.

The following officers were unanimously elected to the various offices: L. C. McLain, president; H. W. Bell, vice-president; R. M. Jones, secretary-treasurer; F. A. Hamlin, delegate; Joe Smith, alternate; Keith S. McKee, new member on Board of Censors.

L. C. McLAIN, *Secretary*.



#### SACRAMENTO COUNTY

**Sacramento County for Medical Improvement**—There was an attendance of thirty-two at the November meeting, held in the Gold Room of the Hotel Sacramento on the evening of the 16th. C. E. Schoff presided. The minutes of the October meeting were read and approved.

##### CASE REPORTS

Gundrum reported the interesting occurrence of a mesoblastic tumor, an epiblastic tumor, and a lymphoblastoma in a woman of forty-five within three years of time.

Schoff told of the finding of numbers of spirochetes in a secondary syphilitic lesion, but months after intensive arsenic treatment.

Bittner and Gundrum reviewed the history of seven flu cases, where one contact developed an acute encephalitis. Three of the simple flu cases could be traced as contacts of the encephalitis case, and yet none showed other than simple influenzal symptoms.

Hall reviewed the disastrous results when surgical interference is adopted in conditions where cellulitis exists.

Robert A. Peers of Colfax presented the paper of the evening, and chose for his subject some personal experiences with pneumothorax. A resumé of his paper follows:

Doctor Peers commenced his paper by stating that after passing through a stage of overenthusiasm and a second stage of pessimism, pneumothorax now had found its proper place where its real value is understood and where its merits and demerits, its indications and contraindications,

its benefits and its dangers are understood and appreciated.

He briefly explained the type of apparatus used in lung compressions and the reasons for the use of the blunt and the sharp needle.

He discussed the indications for the use of pneumothorax and stated that personally, while enthusiastic about this procedure, he was still very conservative in commencing the operation. This conservatism was due to two things: first, the impossibility of predicting in advance which patients would do well without the operation and, second, the length of time the lung compressions must be continued. The difficulty of securing refills, except in the larger centers, made it essential that no case should be submitted to pneumothorax except where absolutely necessary.

It was very important, the doctor believed, that all pneumothorax patients should be controlled by means of x-ray films and fluoroscopic screening, as by this means one could recognize instantly and clearly the amount of compression, the presence and character of adhesions, the presence and absence of pleural effusions, and at the same time keep the noncompressed lung under observation. The types of cases, suitable for pneumothorax are: (1) Progressive cases, which fail to respond to ordinary methods of treatment, particularly but not necessarily those cases in which the other lung is relatively free from disease. (2) Stationary cases, which have improved under ordinary regimen, but which have apparently reached a standstill. This group has to be more carefully selected than Group No. 1. (3) Hemorrhage cases; where there is active and uncontrollable bleeding. (4) Pleurisy with effusion. The doctor differentiated between those cases where pneumothorax is being used and where pleurisy develops in the contralateral lung and between nonpneumothorax patients. In the latter group, where the effusion develops on the good side, pneumothorax is not commenced, although 100 or 200 cc. of air may be introduced following aspiration in order to more clearly outline on the fluoroscopic screen the amount of fluid remaining in the chest following aspiration. Where, however, pleural effusion occurs in the more involved lung it is his practice to replace the amount of fluid with air and, if circumstances warrant, continue the case as one of ordinary pneumothorax. (5) Lung abscess: The doctor reported that his experience with the use of pneumothorax in case of lung abscess had been uniformly unsuccessful, and that now, in spite of the temptation to treat these cases by pneumothorax, he invariably refers them to a surgeon.

He also described three cases where bilateral pneumothorax was used.

The matter of dosage and of interval between doses was next discussed; the principal point made being that in these matters one, to be successful, must individualize strictly. That by means of co-operation between the physician and the patient, and by careful observation of the manometer readings, the x-ray findings and the patient's symptoms, one is enabled to estimate the proper dose and proper interval for each patient. The doctor, however, gave several general rules which he has followed in his practice.

The matter of the occurrence of effusion was discussed and the proper procedure to follow was outlined.

The statistics of Professor Rist and also personal statistics, as gleaned from the doctor's private cases, were given and showed that those patients in whom pneumothorax was successfully performed gave a remarkably high percentage of success, while those cases in which pneumothorax was attempted but unsuccessful, and those cases in which pneumothorax was urged but was refused, presented a very unsatisfactory prognosis.

The doctor's conclusions were: (1) That artificial pneumothorax is of the very greatest value in the treatment of advanced progressive types of pulmonary tuberculosis where the patient fails to respond to ordinary measures. (2) That complete compression is not necessary to obtain good results, but that frequently only partial compression will cause an arrest of the disease. (3) That pneumothorax is the only great positive thing to which we can turn in case of uncontrollable hemorrhage, and that it has been instrumental in the saving of many lives

which would otherwise have been sacrificed because of hemorrhage and complicating pneumonia. (4) That properly applied, the remedy can do the patient no harm if in properly selected cases. On the other hand, numerous cases who are otherwise doomed have become completely cured, and in those cases where arrest of the disease was not attained patients have experienced great relief, due to lessening of toxemia, with reduction or disappearance of fever; have experienced great reduction in cough and expectoration; have had relief from pleuritic pains; have had reduction or disappearance of laryngeal symptoms and have had restored to them a greater feeling of well-being and a happier outlook. And these things—cure in some cases, relief in others—have occurred in patients otherwise apparently doomed.

Durand, Gundrum, Howard, and Scatena discussed the paper. Durand stressed the fact that after nine years of refills he had the same respect for the pleural cavity that he had at that time. Scatena and Gundrum both spoke of rest, whether it be by pneumothorax or otherwise, as being the all-important factor. Howard inquired about the introduction of very small amounts of air in the pleural cavity with the idea of stopping the procedure much earlier than can ever be thought of in a large pneumothorax.

Peers concluded the subject by suggesting that the complete type of collapse is giving better results. He added that he does not advise collapsing the lung in early cases because there are two facts which he cannot tell a patient: (1) he cannot tell who is going to get well, no matter how small or large the lesion is, and (2) he can tell no one how long it is going to take to get well.

After the second reading of the applications of Victor W. Hart, Ruth Carpenter Hart, V. F. Kennedy, John F. Drew and Dave F. Dozier, the unanimous vote of the Society elected all to membership.

The Board of Directors reported that they had advised W. M. Miller, who found it necessary to move to Auburn, as to his possible status with this or the Placer County Medical Society. Also that all members living outside of the immediate jurisdiction of this Society have been advised of the action that they must take before April, 1927.

There being no other business, the meeting adjourned for refreshments.

BERT S. THOMAS, *Secretary*.

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### SAN DIEGO COUNTY

**San Diego County Medical Society**—On November 18 the members of the medical society dined at the Casa de Manana, La Jolla, as the guests of the Scripps Metabolic Clinic through the courtesy of Directors McRae and Harper. The dinner was in honor of the clinic's guest, Dr. Elliott P. Joslin of Boston, whom our profession may well revere as its leading student and teacher in the field of diabetes. Nothing speaks more strongly of the triumphs of scientific medicine than the history of the advances in the knowledge and treatment of diabetes during the past fifteen years; and it has been practically an American triumph. While the names of Allen, Banting, Best, Benedict, Foster, Marsh, Newburgh, Wilder, Woodruff and others on this continent share with Joslin alone should be given the credit of correlating and assembling the knowledge gained and translating it into terse terms of instruction for both physician and layman, so that all that was of practical value in the everyday treatment of diabetes rapidly became available to everybody.

There were few vacancies at the banquet tables, as everyone was anxious to add his tribute to the glory of the honor guest.

After dinner adjournment was made to the La Jolla Woman's Club house, where the comfortable auditorium was filled to the doors with physicians and their friends, quite a few being noted from upstate cities.

After being introduced by Doctor Sherrill, the director of the Metabolic Clinic, Doctor Joslin held his audience for nearly two hours while he outlined the outlook for the diabetic. His talk covered practically every side of the diabetic subject, giving the professional part of his audience the latest views, established from the richness

of his personal experience, and yet using terms that the educated layman had no trouble in understanding. Of course, he could touch but lightly upon any particular spot, but there were few of the high spots that were not discussed. His talk had ever an inspiring note to it, encouraging the general practitioner to use all his intelligence on his cases even though the latest laboratory equipment might not be within his reach. To the layman was given the hope that he could be educated to take care of himself.

We need more of such public talks on matters of scientific health care. It would go far to break down the idea that doctors unite in a trust to control useful knowledge which should be broadly disseminated. We should hear of more trust in the doctor and less of the doctor's trust.

On Sunday afternoon, November 21, the recently completed wing of Mercy Hospital was dedicated with appropriate ceremonies to the work of mercy for which it was planned. Bishop Cantwell of Los Angeles, the bishop of this diocese, was the central figure of the occasion. Mayor Bacon of San Diego and Joseph Scott of Los Angeles made appropriate addresses and music added to the dignified ceremony, which was conducted in the open air in the presence of a large gathering of the friends of the institution. The new wing was then thrown open for inspection.

The New Medical Arts Building at Third and A streets is beginning to take tangible form and offices will probably be available by July 1, 1927.

ROBERT POLLACK.

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### SAN JOAQUIN COUNTY

**San Joaquin County Medical Society**—The regular and annual meeting of the San Joaquin County Medical Society was held Thursday, December 2, 1926, on the roof garden of the Hotel Wolf. The Society met for dinner at 6:30 p. m.

President H. S. Chapman called the meeting to order at 8:15. Forty-five were in attendance. Those present were: Drs. E. A. Arthur, J. W. Barnes, E. L. Blackmun, C. O. Bishop, A. C. Boehmer, R. A. Buchanan, H. J. Bolinger, C. A. Broadus, H. S. Chapman, Fred P. Clark, F. J. Conzelmann, J. T. Davison, J. F. Doughty, L. Dozier, C. F. English, E. Frost, O. H. Garrison, E. C. Griner, P. Gallegos, L. M. Haight, J. M. Hench, C. D. Holliger, J. P. Hull, H. E. Kaplan, Grace McCoskey, R. T. McGurk, A. H. McLeish, W. T. McNeil, F. G. Maggs, F. S. Marnell, F. J. O'Donnell, B. J. Powell, D. R. Powell, D. F. Ray, G. H. Rohrbacher, G. H. Sanderson, J. J. Sippy, Margaret H. Smyth, Hudson Smyth, C. V. Thompson, A. L. Van Meter, G. J. Vischi, B. F. Walker, E. W. Weirich, N. E. Williamson, Attorney Mike Shaughnessy and Dr. Howard C. Naffziger guests and speakers of the evening.

The minutes of the previous meeting were read and approved. The Chair appointed Edmund Frost, F. S. Marnell, and E. C. Griner as tellers for the annual meeting.

Dewey R. Powell, chairman of the committee relative to a clubroom and library in the Medico-Dental Building, reported that the committee recommended the organizing of a Medico-Dental Club, and presented by-laws governing such an organization, and setting forth the aims of the club. The by-laws were passed around and members who desired to join were asked to sign. Thirty of those present signed for membership in the club.

R. T. McGurk reported the activities of the legal committee of which he was chairman.

Mr. Shaughnessy, the attorney of the Society, gave a brief outline of what he had done in the matter relating to the County Hospital. He stated that many difficulties would have to be met by the Society, but believed it could be justly settled providing the physicians stand together and insisted on their lawful rights as citizens and taxpayers of this community. The Chair was authorized to appoint a legal committee of three to work with Attorney Shaughnessy. He named Doctors McGurk, D. R. Powell, and H. S. Chapman.

The applications for membership of Charles E. Stagner of Tracy, California; C. O. Bishop of Linden, California;

and Percy Gallegos of Stockton, California, were read and referred to the committee on admission.

A communication of J. D. Dameron, chairman of the committee to organize and conduct diagnostic clinics for crippled children was read and ordered filed. The committee is to continue its activities to accomplish the objects indicated in the resolution of the Society passed at the November meeting.

A communication of Frank V. Mayo, secretary of the Stockton Medico-Dental Building, Inc., was read urging members of the Society who are planning to become tenants of the building to make their decision very soon; in so doing they will save a great deal of expensive remodeling. The communication was ordered filed.

There being no other business to come before the Society for its regular meeting, the chairman declared the annual meeting in session at 9 p. m., and called for the annual report of the secretary-treasurer.

The annual report of the secretary-treasurer was read and ordered filed.

The tellers reported the highest number of votes cast as follows: J. W. Barnes, H. S. Chapman, Fred J. Conzelmann, J. R. Johnson, R. T. McGurk, Barton J. Powell, Dewey R. Powell, G. H. Sanderson, and J. J. Sippy, whom the Chair declared duly elected as directors of the Society.

From the members of the directors the Society elected J. W. Barnes, president; George H. Sanderson, first vice-president; R. T. McGurk, second vice-president; Fred J. Conzelmann, secretary-treasurer.

The election of standing committees was as follows:

Committee on Admission—J. D. Dameron, C. F. English, J. V. Craviotto, J. P. Hull, and B. F. Walker.

Committee on Ethics—C. F. English, Margaret H. Smyth, Barton J. Powell, R. T. McGurk, and C. D. Holliger.

Committee on Finance—J. V. Craviotto, Dewey R. Powell, and Fred P. Clark.

Committee on Program—G. H. Rohrbacher, George H. Sanderson, and S. Hanson.

Delegates and alternates for State Association—Barton J. Powell, delegate; B. F. Walker, alternate. R. T. McGurk, delegate; Margaret H. Smyth, alternate.

Moved by the secretary, seconded by McGurk, that Article X of the by-laws, relating to dues, be amended by substituting fifteen (\$15) dollars for twelve (\$12) dollars. Carried.

The chairman introduced Howard C. Naffziger, neurological surgeon, University of California Hospital, San Francisco, who spoke on the subject of "Cranial Injuries." After reviewing the writings of surgeons early in the eighteenth century, and even before this time, one is inclined to feel that but little of value has been added to our knowledge of treatment in recent years, said the doctor.

In the treatment of fractures of the skull with associated brain damage the pendulum has swung from time to time from extreme conservatism to radical treatment, such as decompression for all or nearly all. It seems to be the feeling of a considerable number of conservative neurological surgeons today that the cases requiring operations are very decidedly in the minority. In the hands of those who are doing most of this work, the percentage of cases operated upon varies between 10 and 25 per cent. The basis of judgment of cases needing operation is made not only on the signs of pressure which are present, but upon whether or not they are progressing. The classical signs of acute intracranial pressure are well known. The most reliable ones are slow pulse, increased pulse pressure, stupor or unconsciousness, rising blood pressure, altered respiration and Traube-Hering cycles, or what seems often to be its clinical equivalent, even in the absence of other signs, rhythmic recurring restlessness. These signs, however, are the ones presented by a normal brain which is reacting to pressure. The responses of a brain injured to various degrees and in various locations are often strange. They do not always follow this clear-cut picture. It is in these cases that judgment is most difficult. These well-known signs, however, along with such aids as direct measurements of the spinal fluid pressure and observation of the eye grounds in the more protracted cases, are helpful. In the acute traumatic

cases increased intracranial pressure is always due to an increased fluid content within the skull. This fluid may be present in the form of blood, increased cerebrospinal fluid, or through tissue edema resulting from the swelling of the contused brain. It is only by the removal of the fluid that pressure can be removed. The drainage of fluid by one route or another is the aim in any treatment. A decompressive operation which does not drain is of no value. With large accumulations of free fluid, frequent spinal punctures are used. In true tissue edema little or nothing is accomplished by spinal punctures. The intravenous injection of hypertonic solutions of sodium chloride or Ringer's solution or the administration of magnesium sulphate through the gastrointestinal tract are excellent methods for dehydrating the brain.

Before one determines the type of treatment in cranio-cerebral injuries a diagnosis must be made. The diagnosis is the beginning of treatment. In many cases the diagnosis will be delayed until the patient has been observed for hours and sometimes for days. The doctor is cautioned not to operate on a patient in shock; there is nothing gained by doing so. The decompression operation is strictly limited to those cases presenting focal signs of either foreign bodies or extradural hemorrhage. The study and observation of the patient is important to reach a diagnosis. Does he become irritable? Complaint of headaches? Or show a tendency to doze? Slight differences in the movements of the arms and legs on the two sides are important to determine local accumulations of blood or fluid. The pupil on the side of a collecting hemorrhage will not react to light. It is important to ascertain whether the patient is thinking properly; notice the movements of the arms and legs and observe the condition of the pupil. The essential policy is to learn what to do, and when to do it; so that the patient will derive the most benefit. The way to acquire this knowledge is to take time to study and observe the patient carefully.

The members asked many questions, which the doctor answered in an interesting and instructive way.

There being no further business the Chair declared the annual meeting adjourned.

FRED J. CONZELMANN, Secretary.

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## SANTA CRUZ COUNTY

**Santa Cruz County Medical Society**—The Santa Cruz County Medical Society members were guests of Dr. and Mrs. Grant Hatch of Santa Cruz at their December meeting. Vice-President Alfred Phillips presided, and sixteen members were instructed by an able discussion of "Cardiac Failures" by Professor William J. Kerr, University of California Medical School, San Francisco.

Refreshments were served at the close of the meeting and a delightful social hour was spent with the hosts and guest of honor.

Kerr in his discussion said:

"Heart failure in its broadest sense embraces all of those types of conditions where the heart is unable to carry on its usual activity in maintaining the life of the individual. Heart failure may be divided into several groups, the most common being congestive heart failure, anginal failure, functional failure with arrhythmias of various types and, fourthly, a large group of miscellaneous conditions such as traumatic injury, etc. Congestive heart failure is the one which is usually thought of when we speak of decompensation, where there is associated passive congestion with edema in various parts of the body. It makes no difference whether we have a regular or irregular rhythm in the treatment of such conditions. The various principles of treatment of such cases include rest, limitation of fluid intake, depletion by catharsis, diuresis, removal of fluid from various cavities, blood letting, etc. Various drugs are employed, such as magnesium sulphate, caffeine, digitalis, and members of the quinin group. There are a few points which must be kept in mind in the use of digitalis just as in the case of any other drug. *We must know the indications for its use. We must have a potent drug and we must give the drug until we get the result which we are trying to achieve, or until toxic symptoms force us to discontinue its use.* In anginal failure we must be sure to differentiate the symptom complex,



known as angina pectoris, from coronary occlusion. In the latter condition the picture is clear-cut with persistent pain which does not respond to rest or medication and which is frequently fatal. In the true angina pectoris case we must resort to the usual methods for the relief of the attacks and must reorganize the life of the individual. If these measures fail, then surgery by sympathectomy may be a valuable aid. In the third group of cardiac failures, namely, the arrhythmias, which are functional in nature, we may get great relief during attacks of various sorts, or may prevent paroxysmal attacks of disturbed mechanism, by quinin, quinidin, or strychnin given over a considerable period of time. However, we must keep in mind the underlying pathology which may be present that may eventually lead to permanent derangement of the heart."

The January meeting of the Society will be held in Watsonville.



### TULARE COUNTY

**Tulare County Medical Society**—The regular monthly meeting of the Tulare County Medical Society was held at Motley's Cafe in Visalia. Dinner was served about 6:45, with twenty-three present. Members present were Willey, Miller, Tourtilott, Goresbeck, Brigham, Tilletson, Seligman, Weddle, Zumwalt, Fuller, Pain, Hicks, Zeller, Ginsburg, Betts, Banks, Preston, Lipson, Edmonds, and Campbell. Guests present were Dr. Rivin, Seibert, Cleary.

The meeting was called to order at 8 o'clock by President Betts. The minutes of the last meeting were read and approved.

Charles Weddle of Dinuba presented his application for membership to our society and was elected, subject to approval of the State Society.

J. Seiberth of Pixley presented his application for transfer to our society from the Wisconsin State Society. He was invited to meet with us until the transfer could be arranged.

E. W. Cleary of San Francisco then addressed us upon the subject of "Fractures of the Long Bones," illustrating his talk by lantern slides and by the application of miniature splints to a mannikin in a very practical and realistic demonstration.

It was moved by Paine and unanimously carried, that Doctor Cleary be given a vote of thanks by the Society. Meeting adjourned at 10 o'clock.

H. G. CAMPBELL, *Secretary*.

### CHANGES IN MEMBERSHIP

**New Members**—John F. Drew, Walnut Grove; Dave Ford Dozier, Ruther Carpenter Hart, Sacramento; Victor Hart, Fair Oaks; Vernon F. Kennedy, Repressa; Lloyd B. Dickey, Francesco A. di Grazia, Norman N. Epstein, James B. Herring, San Francisco.

**Transferred**—T. Floyd Bell, Fresno County to San Francisco County.

C. Conrad Briner, San Francisco County to Placer County.

Hervy Graham, San Francisco County to San Diego County.

Keene O. Haldeman, San Francisco County to Rochester, Minnesota.

Nikander Riaboohin, Orange County to Los Angeles County.

John A. Jackson, Orange County to Los Angeles County.

**Resigned**—Percy Sumner, San Francisco; William A. Key, Paul F. Straub, Los Angeles.

**Deaths**—Brennan, Thomas Francis. Died at Los Angeles, November 23, 1926, age 60. Graduate of the University Medical College of Kansas City, Missouri, 1891. Licensed in California in 1892. Doctor Brennan was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

**Dwight, Wilder**. Died at Oakland, November 22, 1926, age 58. Graduate of the University of Southern California College of Medicine, Los Angeles, 1896, and licensed in California the same year. Doctor Dwight was a member of the San Francisco County Medical Society,

the California Medical Association, and a Fellow of the American Medical Association.

**Oldham, John Y.** Died at Los Angeles, September 19, 1926, age 60. Graduate of the Kentucky School of Medicine, Louisville, 1885. Licensed in California in 1905. Doctor Oldham was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

**Remondino, Peter Charles**. Died at San Diego, December 10, 1926, age 80. Graduate of Jefferson Medical College of Philadelphia, 1865. Licensed in California in 1878. Doctor Remondino was an affiliate member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

**Todd, George Bell**. Died at Napa, November 18, 1926, age 65. Graduate of Saint Mungo's College and Glasgow Royal Infirmary, 1884. Licensed in California in 1920. Doctor Todd was a member of the Napa County Medical Society, the California Medical Association, and the American Medical Association.



JAMES WILLIAM THAYER  
1854-1926

James William Thayer, born in New York, July 23, 1854, died November 12, 1926, of coronary embolus. Graduated from the College of Physicians and Surgeons, Keokuk, Iowa, 1879. Was assistant chief surgeon Mexican Central Railroad, in charge of their hospital at Chihuahua, Mexico, from 1882 to 1886, then practiced in El Paso, Texas. Came to Gilroy in February, 1888, became a mem-

ber of the State Medical Society and of the Santa Clara County Society at once. For twenty-five years he was district surgeon for the Southern Pacific Railroad Company, and for thirty-five years deputy county health officer, and for many years city health officer for Gilroy.

Doctor Thayer served twelve years as secretary of the Chamber of Commerce, and for many years before that was a member of the City Council. He had the first private telephone in Gilroy. He was, as one of the Southern Pacific employees said, "everybody's friend." One of the many letters received by his daughter after his death expressed what was heard on all sides, "no night was ever too stormy for him to come out in the country to us." He was treasurer of the Presbyterian Church, devoted to his church and its interest, with a faith so serene that his passing was a beautiful ending of the seventy-two years of useful life, which had been a blessing to so many.

The Metropolitan Life Insurance Company in recognition of his twenty-five years as their examiner sent to him a diamond-set medal, which arrived after his death.

He had practiced continuously for thirty-eight, almost thirty-nine years in Gilroy, carrying on his practice in the years when a horse and buggy took him miles up in the hills in stormy nights—just a regular old-time country doctor with over 1400 births in his records—a real family doctor.



WALTER I. BALDWIN  
1885-1926

Walter I. Baldwin—California born, California trained, a brilliant surgeon and a lovable man.

His early years up to the beginning of his university career were spent in Eureka. Any estimate of his subsequent accomplishments must pay homage to the tireless devoted energy of his mother. It was her industry and perseverance in the face of early widowhood which made his education possible. Her zealous affection was his constant inspiration. This bond of mutual love and respect continued to the end.

He received the degree of Bachelor of Science in 1909 and Doctor of Medicine in 1911, both from the University of California. Then followed an intern year at the University Hospital and postgraduate study in the eastern part of the United States and in Europe. He came home

to practice orthopedic surgery in 1914 and was promptly made chief of this specialty at his alma mater.

Then followed with amazing swiftness one of the most remarkable meteoric careers in the history of our local profession. He was the leader of his field when only 30 years of age, incapacitated by illness at 38 and dead at 40. He had crowded into ten years what few men attain in thirty. What is perhaps still more significant, out of the middle of those ten years he snatched two for distinguished service in the World War, recognized by the rank of Lieutenant-Colonel. In later years beside an enormous private practice, and his work as Clinical Professor of Orthopedic Surgery at the University, he gave liberally of his time and experience to what he loved most of all, his duties as chief surgeon to the Shriners' Hospital for Crippled Children.

What exceptional qualities made all this possible? Chiefly, perhaps, a fine mind, skillful hands and above all, a big heart.

Patients adored him—young and old, men and women, boys and girls. All successful physicians possess that essential characteristic, personality, but in Walter Baldwin this quality amounted to positive magnetism. All of his myriad patients on more than one occasion waited long, weary, fretful hours before they reached his presence, often peppery and exasperated as they entered his room. In an instant, as if by magic, they were under the spell of that cheery heartening smile of his, and he in turn was absorbed in their affliction as if no other patient existed.

Always he was gentle. In his difficult operations and manipulations he forever strove to spare his patient distress and discomfort; he could never steel himself to witnessing pain. No effort was too great, day or night, which might avoid causing anguish or which might soothe or relieve suffering. No wonder his patients loved him.

His friends were legion and loyal, in and out of his profession. Their fondness and affection for him knew no bounds. His radiant charm, alas, is gone and an aching void is left, but none would have wished him to linger on. He literally wore himself out for others.

Deepest sympathy goes out to his devoted wife whose life with him was so pathetically brief. Three children barely knew their father, but there will be many tales to tell them as they grow older—tales that stand in incontrovertible proof of Dr. Walter Baldwin's brilliance, kindness, and eminence.

#### Resolutions of the Council on the Death of James H. Parkinson and Saxton Temple Pope

Adopted and ordered published at the meeting held in San Francisco, December 4, 1926.

##### James H. Parkinson:

*Whereas*, Dr. James H. Parkinson has been a zealous and beloved member of the California Medical Association since 1884, and has been most faithful in his attendance at the meetings of our Association; and

*Whereas*, Doctor Parkinson served this Association as president in 1910 directing its affairs during that year to the great benefit of the Association; and

*Whereas*, Doctor Parkinson has been an active member of the Council of the California Medical Association, giving freely of his time and energy to the promotion of its interests since 1906, and has served as the chairman of the Council for the last four years; and

*Whereas*, During all these years Doctor Parkinson has given to the California Medical Association and to its Council faithful and valued services combined with an executive ability of high order, has added contributions of great worth to its scientific programs, has fought the battles of the Medical Association and has with courage and ability sustained and upheld the best interests of the medical profession at all times; and

*Whereas*, Doctor Parkinson has been removed from our midst by the hand of death; therefore be it

*Resolved*, That in the death of Doctor Parkinson the

Medical Profession of the state has suffered the loss of one of its most valued members; that the Council has lost a presiding officer of rare executive ability; and that the commonwealth has lost an honorable and distinguished citizen; and be it further

*Resolved*, That a copy of these resolutions be spread upon the minutes of the Council and be published in CALIFORNIA AND WESTERN MEDICINE.

#### Saxton Temple Pope:

An all-wise Providence has seen fit to call Saxton Temple Pope from among his earthly fellows. Yet he is not gone, for his was a spirit that influenced all who contacted with him, and that influence will continue to be with us.

He was the type of the true physician, the type on whom human beings lean heavily when in physical affliction, because of the confidence that is given to a physician who has a heart full of the milk of human kindness, and who has a learned brain and a technical medical and surgical skill that augurs for successful work.

If with such attributes go modesty and conscientious devotion to duty and service, and a character and personality that draw other men to him, then a man may indeed feel that his existence on earth had made the world somewhat better. Such a man was Saxton Temple Pope.

Saxton Temple Pope loved his profession and its opportunities for service; he loved all things good; and he had the courage and will at all times to battle for the same; he loved the great outdoors and was alert to the influences of nature to an extraordinary degree; he had a brain that thought clearly, a heart full of courage, and an individuality that feared nothing in the quest of a legitimate aim.

He was humble in the acquisition of knowledge that seemed to him worth the while, no matter from what source coming; and was patient and diligent in his endeavors to profit and make the most of his knowledge.

He was a sportsman in the highest and best sense of that term, disdaining the taking of an unfair advantage with either man or beast, and subjecting himself to the rigor of the severest discipline in order to give fair play to all.

He reflected honor on the medical profession of the great state of California; he was a most faithful servant and efficient co-worker in the development of organized medicine and of our California Medical Association, and his place and presence will be sorely missed by patients, friends, and colleagues.

The members of the Council of the California Medical Association bow their heads in silent prayer, in gratitude for the opportunity of having known him and of having had him as a co-worker. The Council on behalf of themselves and the California Medical Association extends to the bereaved family of Saxton Temple Pope its sincerest sympathy.

God grant that men of the type of Saxton Temple Pope may be many, and for all time be a part of the California Medical Association.

**Treatment of Phagedenic Ulcerations of Genitals—**During the last two years, while experimenting with the treatment of a series of cases of granuloma inguinale, Jerome Kingsbury and Samuel M. Peck, New York (*Journal A. M. A.*), have used antimony and potassium tartrate in a number of other conditions with more or less success. Cases of phagedenic ulcerations of the genitals that previously had not responded to local therapeutic measures were rapidly healed by the intravenous injections of antimony and potassium tartrate. This treatment should not be employed for simple chancroids, but reserved for those types of genital lesions which deep and rapid ulceration has rendered unsuitable for routine local measures.

New planets have been named Arequipa, Cantabria, Rotolphia and Portlandia, and, if that isn't stealing the stuff of the Pullman Company, what is?—*Charleston Gazette.*

## AMENDMENTS TO THE CONSTITUTION AND BY-LAWS OF THE CALIFORNIA MEDICAL ASSOCIATION

*Second publication of amendments to the Constitution and By-Laws submitted at the Fifty-fifth Annual Session of the House of Delegates of the California Medical Association.*

The following amendments apply to Constitution and By-Laws adopted June 23, 1923. Proposed amendments appear in black face type; original wordings appear in parenthesis:

### Article VI

#### OFFICERS

Section 1. The officers of this Association shall be a President, a President-elect, a Vice-President, seven Trustees, a Speaker and Vice-Speaker of the House of Delegates, and fifteen Councilors, of whom one shall be elected from each of the nine Councilor districts and six at large, two of whom shall be elected from the county of Los Angeles, and four from the remainder of the State. Not more than three Councilors shall be elected from any one Councilor district. These officers, other than Trustees, shall be elected by the House of Delegates at the time and in the manner provided in this Constitution and By-Laws.

Sec. 2. The officers, except the Councilors and Trustees, shall be elected annually. The terms of the elected Councilors shall be for three years. The terms of the Trustees shall be two for five years, one for seven years, and two for nine years. The President and the Secretary shall be elected annually. The Council shall elect the Trustees at its first meeting held after the annual meeting of the Association. All Trustees shall hold office until their successors are elected.

Sec. 3. The Association shall elect a President for the next succeeding year who shall remain President-elect for one year preceding his assumption of the office of president. While President-elect he shall be ex-officio a member of the Council and of all other bodies and committees of which the President is an ex-officio member. The Speaker and Vice-Speaker, who may or may not be members of the House of Delegates, shall be elected for a term of one year, commencing on the adjournment of the annual meeting at which elected.

Sec. 4. No delegate during his term of service as delegate shall be eligible to any office named in Section 1 except that of Councilor, and no person shall be elected (to any such office) President, President-elect, Vice-President and Councilor, who has not been a member of the Association for two years (next) preceding his election. Every delegate and alternate to the House of Delegates of the California Medical Association must have been a member of the Association for one year prior to his election.

### Article V

#### COUNCIL

The Council shall consist of the elected Councilors and ex-officio the President, the President-elect, the Vice-President, the Speaker and the Vice-Speaker of the House of Delegates. (Besides its duties mentioned in the By-Laws, it shall constitute the Finance Committee of the House of Delegates.) Five Councilors shall constitute a quorum.

### Article IX

#### FUNDS AND EXPENSES

Funds shall be raised by equal per capita assessments upon the active members of each county society, and by such donations, voluntary subscriptions, endowments and gifts, proceeds from publications and such other earnings as are acceptable to the Council. The amount of assessments shall be fixed by the (House of Delegates by a two-thirds vote thereof of those present) Board of Trustees. The fiscal year of the society shall be from January 1 to December 31. The number of members in good standing in each county society on the first day of October of each



year shall be taken as the basis for the assessment for the following fiscal year.

### Article XIII

#### Trustees

Section 1. The Board of Trustees shall consist of seven members, who shall hold, administer, manage and control all funds and properties of the Association.

Sec. 2. No person shall expend or use for any purpose money belonging to the Association without the approval of the Board of Trustees.

Sec. 3. All acts of the Council involving expenditure, appropriation, or use in any manner, of money, or the acquisition or disposal in any manner, of property of any kind belonging to the Association, must be approved by the Board of Trustees.

Sec. 4. The Board of Trustees may formulate rules governing the expenditure of money to meet the necessary running expenses and fixed charges of Association, as well as such other rules governing its actions as it may deem necessary or desirable. Four members of the Board shall constitute a quorum for the transaction of business. The Board shall elect its own Chairman and Vice-Chairman, but the Secretary of the Association shall be the Secretary of the Board.

Sec. 5. The Trustees shall hold quarterly meetings at such time and place as the Board shall designate, but special meetings may be called at any time by the President, and shall be called by him, on the request of two or more Trustees.

Sec. 6. The Trustees shall make an annual report of the financial and general status of the Association at the annual meeting of the Association, and to the Council at its fall meeting and at such other times as the Council may request.

Sec. 7. Absence of a trustee from three consecutive meetings of the Board of Trustees without an excuse satisfactory to the Council shall be interpreted as a resignation from the Board of Trustees. Upon receiving notice from the Secretary of such absence the Council shall proceed to elect a Trustee to fill the vacancy.

Sec. 8. The Council may, at any time it deems it necessary or advisable, direct the incorporation of said Board of Trustees under the laws of the State of California, and the Trustees shall thereupon form and organize such corporation.

### Amendments to the By-Laws

#### Chapter I

All members (affiliate, associate and honorary members of county societies) of county societies—active, associate, and affiliate—shall by virtue of such membership (be members, affiliate, associate or honorary members of this Association) hold corresponding membership in the California Medical Association upon certification by the Secretary of the county society of such membership and receipt by the Secretary of this Association of the assessment for the fiscal year.

#### Chapter III

##### HOUSE OF DELEGATES

Renumber Section 3 as 4; 4 as 5; etc.

Section 3. The Speaker shall preside at the meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage requires. He shall have the right to vote only when his vote shall be the deciding vote. The Vice-Speaker shall officiate for the Speaker in the latter's absence or at his request. In case of death, resignation, or removal of the Speaker, the Vice-Speaker shall officiate during the unexpired term.

Sec. 10. The Speaker of the house or in the absence of such officer, the Chairman of the Council, prior to each annual session shall appoint a credentials committee, consisting of two members of the House of Delegates and the society Secretary ex-officio. The function of the committee shall be to register and to pass on the credentials of all members of the House

of Delegates, and submit to the House of Delegates a written report or reports, giving the names of all members eligible thereto. Provided, however, that the members seated by the committee shall have the right through two-thirds vote to amend the report or reports of the Credentials Committee.

Sec. 11. No Delegate or Alternate whose name has not been certified in writing as such by his county unit, through the President and Secretary, and filed in the office of the State Secretary at least fifteen days subsequent to the first of March shall be entitled to a seat in the House of Delegates. The State Secretary shall notify each delegate of his election and forward certificate credentials with notice of Councilor's rulings governing election and penalty for nonattendance; and no delegate absent without prior notification to his County Secretary or Secretary of this Association shall be eligible to a seat in the House of Delegates the following year; and it shall be the duty of the Secretary to mail a list of all absent delegates to the proper county units.

#### Chapter IV

Section 3. The Secretary shall attend the general meetings of the Association; the meetings of the House of Delegates, and of the Council, and the Trustees, and shall keep the minutes of their respective proceedings. He shall be ex-officio Secretary of the Council. He shall be the custodian of all records, books and papers belonging to the Association, and shall keep account of and promptly turn over to the depository all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the annual meetings. He shall, with the co-operation of the secretaries of the county societies, keep an approved register of all the members of the Association by counties, noting on each his status in relation to his county society. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be authorized by the Council and shall make an annual report to the House of Delegates. He shall supply each county society with the necessary blanks for making its annual report; he shall keep an account with the county societies, charging against each society its assessment, and collect the same. He shall in like manner keep an account with each member as to any assessment or assessments levied directly upon each member, and collect the same. As chairman of the Committee on Scientific Program, he shall prepare and issue all programs. He shall perform such other duties as the Council may direct. He shall be appointed by and have his compensation fixed by the Council.

Sec. 4. The depository of the Association shall be a bank or trust company selected by the (Council) Trustees. All funds received for the Association by any officer or agent thereof shall be promptly paid to the Secretary and by him deposited with the depository. The depository shall pay out the money of the Association only upon check or draft signed by the Secretary and countersigned by the chairman or other designated member of the (Council) Board of Trustees. The Secretary shall issue such checks or drafts only upon vouchers approved by the Auditing Committee and signed by all the members thereof. A revolving fund in such amount as may from time to time be fixed by the (Council) Board of Trustees shall be left with the Secretary, from which fund immediate cash demands may be paid.

#### Chapter V

##### COUNCIL

Section 1. The Council shall meet on the day preceding the annual meeting of the Association and daily during its sessions, and it shall also hold at least three other meetings during the year, at least one of which shall be held in the southern part of the State. Special meetings may be called by the chairman at any time, and he shall call a special meeting upon the written request of at least three Councilors, provided written notice of the time,

place and object of the proposed special meeting be given by the Secretary to all members of the Council not less than seven days prior to such meeting. At the meeting held on the last day of the annual meeting of the Association the Council shall reorganize and shall elect a chairman for the ensuing year.) The Council shall fill all vacancies in the Board of Trustees. The chairman shall make an annual report to the House of Delegates.

Sec. 2. (The Council shall have power to invest the funds of the Association, and to do and perform all acts and transact all business for and on behalf of the Association when the House of Delegates is not in session. It shall also have power to delegate such powers and duties as it may determine to the Executive Committee hereinafter provided for). The Council shall have power to do and perform all acts, transact all business for and on behalf of the Association other than those powers and duties herein or in the Constitution vested in the Board of Trustees. The Council shall also have power to delegate any of its powers as it may determine to the Executive Committee herein-after provided for.

Section 13. The Council shall appoint an attorney at law in good standing, practicing his profession (at San Francisco) in the northern section of California, to act as general attorney for the Association, and an attorney practicing his profession (at Los Angeles) in the southern section of California, to act as assistant general attorney. The General Attorney shall, so far as possible, attend the sessions of the Council, the Executive Committee, and of the House of Delegates and shall generally advise and counsel with the Councilors and the officers of the Association. The General Attorney or Assistant General Attorney shall have charge of all actions for malpractice against individual members of the Association on behalf of such members whenever their defense is authorized by the Association, through the Council, the Executive Committee, or the Secretary thereof.

Sec. 15. The Executive Committee of the Council shall consist of the President, the President-elect, the Vice-President of the Association, the Chairman of the Council, the Chairman of the Auditing Committee (and the Secretary-Editor) the Secretary and the Editor. The committee shall elect its own chairman, and the Secretary shall act as Secretary thereof. It shall keep a record of its proceedings and report them to the Council, and all of its proceedings shall be subject to the approval of the Council.

## Chapter VI

### ORDER OF PROCEDURE

(The Program Committee.) The Committee on Scientific Program shall consist of the Secretary of the State Association (and four members of the Association who shall be elected by the House of Delegates, one each year, to serve for four years) the Editor, the Secretaries of the sections on General Surgery and General Medicine, and three others to be elected by the House of Delegates for a term of three years, one being elected each year. The Secretary of the Association shall be the chairman thereof. It shall determine the character and scope of the scientific proceedings of the Association, subject to the instructions of the Council (and shall provide for and fix the order of business at the sessions of the General Meeting, the sessions of the House of Delegates and the sessions of each section).

## Chapter VII

Section 4. Each county society shall judge the qualifications of its members. However, as such societies are integral parts of this Association and all the basis of membership in the American Medical Association, it is necessary that the qualifications meet the minimum requirements of the State and National organizations. These minimum requirements are that to be eligible for election as an active or affiliate member the applicant must hold the degree of Doctor of Medicine from an (accredited medical school) institution of learning accredited at the time of conferring such degree by the American Medical Association, and must be licensed to practice medicine and surgery in the State of California.

Every associate member must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association, and must not be licensed to practice medicine and surgery in California, and hence be ineligible to active membership. (He) A member must not practice or claim to practice or lend his support, co-operation, or in any other way endorse any exclusive system of medicine or any person practicing the same. He shall be honorable and ethical in his conduct and shall subscribe to the principles of medical ethics of the American Medical Association, and shall recognize the Council of this Association as the proper authority to interpret any doubtful points in ethics. Every applicant for membership in a county society shall fill out and sign in duplicate the application blanks provided by the society which prescribe the necessary qualifications for membership. One copy of each such application shall be promptly forwarded to the office of this Association.

Sec. 8. (A physician living on or near a county line may hold his membership in that county most convenient for him to attend, provided that the consent of the society of the county in which such physician may reside be first obtained, and also the consent of the society which he desires to join.) A physician who states he has his major office for professional practice in one county, even though his legal home or residence may be in some other county, may have the option of joining or maintaining his membership in the county medical society of the county in which he has his major office for professional work, or in the county medical society in which he has his legal home or residence.

Sec. 14. Any county society may, in its discretion (create affiliate, associate and honorary members. When the county society follows the provisions of the State Association in its affiliate, associate and honorary membership provisions, such associate, affiliate or honorary members of county societies may be elected by the Council to corresponding positions in the State Association) elect active, associate and affiliate members under and pursuant to the provisions of Article III of this Constitution. Any county society may also elect honorary members of its own society, but such honorary members shall not thereby be honorary members of this Association.

**Intraocular Sarcoma in Children**—A report of ten cases of intraocular sarcoma in children is made by Walter R. Parker, Detroit, and William H. Stokes, Dallas, Texas (*Journal A. M. A.*). In the ten cases fourteen eyes were affected clinically and eleven were made available for pathologic study. In four cases both eyes were involved. In one case the second eye was enucleated after death. In eight cases the history showed no evidence of an hereditary tendency. In two cases the history was unknown, although the patients were sisters, each having both eyes affected. In six cases the orbit was subjected to roentgen ray therapy after exenteration had been performed. In three cases recurrence and death occurred, in two cases there was no recurrence, and in one case the result is unknown. In two cases the remaining eye was treated with radium, in one of which the process was not arrested. In the other case, which is still under observation, there has been some increase in the size of the neoplasm, but the rapidity of the growth seems to have been checked. Four cases with six eyes or orbits affected were under observation at one time. An analysis of the pathologic data in the ten cases reported seems to warrant the conclusion that the growths were all sarcomatous. Neoplasms of this nature are nonpigmented, rapid in growth and highly malignant, and have marked properties of angioblastic proliferation. The apparent rosette structure, seen in two of the cases, represents the early peritheliomatous proliferation. It is due entirely to the proliferation of the cells arising from small blood vessels and is not characteristic of epiblastic tumors. In the older portions of the neoplasms this structural arrangement is absent. Further study will be necessary to prove definitely the suggested possibility that a glioma or a neuroepithelioma of the retina as a clinical entity in children does not exist.

## UTAH STATE MEDICAL ASSOCIATION

W. R. CALDERWOOD, M. D., Salt Lake.....President  
E. H. SMITH, M. D., Ogden.....President-Elect  
FRANK B. STEELE, M. D., Salt Lake.....Secretary  
J. U. GIESY, M. D., Salt Lake.....Associate Editor for Utah

### THE HYPOCHONDRIAN SPHINX

In a narrow valley in the hinterland of the Hepatic Range to one side of the narrow channel of the Ductus Choledochus, which through the Hepatic Ducts drains the entire Hepatic watershed, via the lower pass of the Foramen Winsloii, into the broader current of the Duodenum, lies the domed structure of the Hypochondrian Sphinx. Like the Delphian Oracle and the huge crouching colossus of the Egyptian sands, its riddle remains unsolved throughout the years. Many have come to question as to its purpose, and yet the riddle has not been read.

About the Hypochondrian Sphinx, even within its purlieu is a rich mining country out of which much wealth has been extracted by professional miners through tunneling operations. The principal yield has been in silver, currency and gold running a very high per cent, when compared to the actual waste or "muck" needful to be moved in the form of "stones." There is even gold in bile when removed from this territory by means of a "pipeline" of rubber led from the parent lode to the surface.

All of which is facetious of course, but in a sense true none the less. For the riddle of the Hypochondrian Sphinx, or the Gall Bladder seems to be sphinklike yet, indeed. Theories advanced by brilliant minds still fail to give the answer to a workable extent. Argument seems as yet to be the main result. Even the presence of the valves of Heister, evidently under the control of muscular action through the sympathetic nervous system, results in but two sides of a question as to whether the valves control a flow of bile *into* the bladder or—out! Some regard it as a reserve reservoir, some as a concentration sump. Yet that it has a function one can scarcely doubt. And now that the enthusiasm first marking cholecystectomy has passed to an extent, we begin again to take stock. Mankind may live without an appendix, without tonsils, without teeth. He may get along with one lung or one kidney; may still procreate his species with one testicle or one ovary and yet be proud or cast down by the result. But seemingly the fate of mankind without a gall bladder is, in the parlance of this era, "not so good." He'll live. Life is a very tenacious thing and persists under at times amazing conditions. But his days will very probably be filled with a great deal besides physical happiness. And when he dies—or before—if the field of the operation is investigated later, one can see full proof in the change in the main duct, that nature has tried by an enlargement, a stretching of this structure to compensate for the function of the organ which has been removed.

And so the Hypochondrian Sphinx still crouches in its narrow valley, and the pilgrims question, and

the miners mine, and others seek at times to catch some of its liquid gold through a Lyon's tube.

But hope springs eternal, it is said, and as a new year dawns, hope again springs in the minds of those who search for the answer that within some date not far in the future the riddle may be read. The profession has gone far since the days of leech and lancet—so far that rather than taking blood away we generally put it in, and it is not too much to expect that some day, with the answer in our possession, we shall understand better, be better able to attack the problem of these types of disease.

The editor feels that the following lines are exceedingly good. We do not mean that the indicated method is the only one of reaching a colloidal state of mind. Personally we have attained that result without any effort at times. The condition simply developed in an idiopathic fashion, resulting in a most remarkably colloidal state of thought—a condition indeed in which our mental structures appeared to be about as purposeful as the apparent animus of a common ordinary variety of jelly fish. However, in these days of Volsteadian regulation, departmental interpretations, and Supreme Court interdictions upon professional judgment, a colloidal state of mind seems a very timely topic. We hope therefore that he who runs may read:

#### THE COLLOIDAL STATE OF MIND

By DR. T. A. FLOOD

When I was calmly notified not many days ago  
That I was listed for a toast on something apropos,  
I felt so flabbergasted that my mind went out of gear,  
For I could think of nothing that you'd really care to hear.

I thought of all the stories that you've heard a thousand times  
At after-dinner functions, and the toasting done in rhymes;

I thought of all the banter and the brilliant repartee  
Which on other fit occasions had appealed to you and me.

I gathered up the odds and ends of humor and of wit,  
But doubted if the best of these would even make a hit;  
And I knew you were familiar with the wise and witty cracks

Which somehow run forever in the standard almanacs.

As I could think of nothing then, original or new—  
(And I know exactly how it feels to be in such a stew)—  
I offered explanations, and I begged to be excused,  
But all of my entreaties were quite graciously refused.

I even tried protesting in a diplomatic way,  
Still hoping I might wiggle out and make my get-away;  
But Sister M. Superior replied, "Now, that's enough"—  
So here I am, defeated, but prepared to do my stuff.

Until I read the title of the task assigned to me—  
A subject quite intangible, as anyone can see—  
I hadn't one idea as to what I'd talk about,  
Because the subjects chosen hadn't yet been given out.

In downright desperation, I began to look for aid  
By scanning through the records that distinguished men  
have made:

By reading noted authors, just to see what I could find  
On chemical reactions that affect the human mind.

But none of these authorities had anything to say  
On this important topic, very much to my dismay.  
Perhaps they just evaded it and left it undefined,  
For none had even mentioned a colloidal state of mind.

I fingered through the pages of a stack of magazines,  
Determined I would find a way by fair and honest means  
To get the information that was needed to expound  
The subject in a manner that would cover all the ground.



I felt the strain, however, of attention long sustained,  
And finally decided there was nothing to be gained  
By too much concentration on the object of my quest,  
So I turned to lighter reading for a temporary rest.

For reading that was easy and that didn't tax the mind,  
Commercial advertising was the best that I could find:  
For mental relaxation, it's a thing that doesn't call  
For any conscious effort of the intellect at all.

I read the ads extolling many brands of facial cream,  
And noted that, with friction, they would vanish like a dream;  
But the magic beautifiers that were lauded to the sun  
Outnumbered all the others at a ratio ten to one.

I read the ads commending all the better-grade cigars,  
And those with illustrations of the latest auto cars—  
Of cars equipped with everything a person might desire,  
And a raft of other luxuries that most of us require.

I read the testimonials that boosted brewers' yeast,  
And found them altogether quite a literary feast:  
The claims were so extravagant, the way the stories read,  
I wondered why they didn't claim that yeast would raise the dead.

The stuff was recommended for eruptions on the face,  
And for the preservation of agility and grace;  
For all the bad disorders of the liver and the nerves,  
And all the other punishments the human race deserves.

Of course, I didn't credit what I read concerning yeast,  
But thought I might experiment and try it out, at least.  
By following directions that were printed as a guide,  
I started with a single cake, which I had liquefied.

With growing curiosity—although it seems absurd—  
I noted every symptom at the moment it occurred:  
But very little happened while I waited, undismayed,  
For inside information, which appeared to be delayed.

The second day a double dose was taken as prescribed,  
And in my memorandum book a record was inscribed.  
I still had some misgivings, for I couldn't then detect  
That the yeast was even working, or was having much effect.

But when the next day rolled around, the third day of the test,  
I took three pieces of the stuff that Fleischman had compressed.  
It seemed to me, soon afterward, there was a sudden change,

For a feeling of expansion had enlarged my mental range.

And much to my astonishment, with each succeeding day,  
A vague exhilaration seemed to carry me away:  
Ideas flowed like cataracts and, then, at other times,  
My words would run persistently in easy-going rhymes.

I've wandered rather far afield in trying to explain  
Just how it is that yeast affects the functions of the brain;  
But if I'm sure of anything that's clear and well defined,  
I know that yeast produces a colloidal state of mind.

The Jelly-like condition that the colloids all maintain  
Is a chemical enigma, and will always so remain:  
It's like the ectoplasm that Sir Conan raves about  
In his lucid explanations, for it leaves us still in doubt.

In closing, I am hopeful that our most distinguished guest  
Will take no hasty action that would lead to my arrest:  
If I've offended anyone, then, let me say, at least,  
It's because I'm convalescing from an overdose of yeast.

**Utah News**—The regular meeting of Weber County Society was held Wednesday evening, November 16. The principal business of the evening was the election of officers for the coming year. Election resulted as follows: R. L. Draper, president; W. R. Brown, vice-president; H. C. Standquist, secretary-treasurer. Delegates to state convention: E. R. Dumke, R. L. Draper, W. Whalen, A. Z. Tanner, L. S. Merrill. Alternates: G. A. Dickson, H. W. Nelson, L. R. Jackson, E. P. Mills, W. Budge.

Dumke and Ezra Rich reported on their recent trip to the conventions at Montreal and Cleveland, and the clinics in those cities.

Calderwood and officers of the State Association, Smith, president-elect, and Landenberger and Merrill, councilors, and Secretary Steele made their official visit to the Utah County Society on the evening of Wednesday, December 8. The paper of the evening was "Surgery of the Diabetic" by J. A. Phipps. Dinner was served to the visitors and society members at the Roberts Hotel.

A similar visit was made by the same officers to the Weber County group on Thursday, December 9. Dinner was served at the Weber Club, and a paper on "Per-nicious Anemia" was read by L. L. Daines.

State Secretary Frank Steele is back from the meeting of the state secretaries at Chicago. He reports the main topics of discussion at the meeting to have been an additional stressing of the periodical examination of the apparently well, and a consideration of the problem offered by indigent physicians. Full accounts of the meeting will, of course, appear in the official bulletin.

Cyril Callister returning from the Montreal and Cleveland conventions entertained the members of the Wasatch Academy (review group) with a report on the transactions and papers of the two assemblies.

A. J. Hosmer is making a visit in Ann Arbor to his family and relatives.

Clarence Snow was elected chairman of the medical staff of the L. D. S. Hospital for the coming year. E. L. Skidmore was chosen vice-chairman of the medical staff and Joseph E. Jack was retained as secretary and treasurer.

The annual dinner of the Holy Cross Hospital staff was held Tuesday night at the hospital, with the Rt. Rev. John Joseph Mitty, D. D., as the guest of honor. Dr. William Donohoe was the toastmaster, and informal talks on the life and growth of the hospital during the past twenty-five years were given by E. F. Root and A. J. Hosmer, both of whom are veteran staff members. Other speakers were Fuller B. Bailey, Thomas A. Flood, John J. Galligan, and Sol G. Kahn.

At a time when he is facing one of those inevitable hours of sorrow which in the very necessity of human activities must come to any or all who may be called upon to meet the loss of one near and dear to his innermost affections, the staff of the Holy Cross Hospital desire to extend to their fellow-member, Dr. Edward LeCompte, their fullest measure of sympathy because of the bereavement he has sustained in the recent death of his mother.

It is with sincere regret, coupled with a complete realization of the futility of words in such a circumstance, that we note her passing at the end of a full and useful life. Yet it is with a cordial hope that the knowledge of our attitude may in a measure prove of some support to him at this time that we offer this expression of it to him as friend to friend.

The above resolution embodies the expression of that sympathy on the part of his staff associates to Dr. Edward LeCompte, due to the recent death of his mother. We are sure that in equal measure Doctor LeCompte may be assured of a like feeling throughout the body of the profession in Salt Lake or wherever he or she may have been known.

**Salt Lake County Medical Society** (M. M. Critchlow, secretary)—A regular meeting was held at the Commercial Club, Salt Lake City, Monday, November 29, 1926, called to order by President F. H. Raley. Thirty-nine members and four visitors were present.

Minutes of the previous meeting were read and accepted without correction.

J. A. Phipps read a paper on "Surgery of the Diabetic." He took up very thoroughly the preparation of the patient for operation and various procedures for the different complications of diabetes which he described in detail. The paper was very complete, giving special attention to the anesthetic to be used and the necessary instructions to patients of how to avoid infections. This

excellent paper was discussed by E. D. Hammond, G. W. Middleton, and A. A. Kerr.

The next paper was on "Physiotherapy" by J. U. Giesy. He gave a very interesting blackboard talk of the physics of electricity and light and the application of these principles to pathological conditions in the human economy and also their physiological effect on the human body. This paper was discussed by C. L. Shields and W. S. Keyting.

The Chair announced the committee appointed for the banquet in honor of the dentists: F. K. Root, chairman; E. Spencer Wright, L. J. Paul.

## MEDICAL AND HEALTH AGENCY NEWS

The Forty-Fifth Course of popular medical lectures of the Stanford University Medical School will be given at Lane Hall, north side of Sacramento Street near Webster, San Francisco, on alternate Friday evenings at 8 o'clock, beginning January 14, 1927.

The lectures, to which all interested are cordially invited, are:

Friday evening, January 14, 1927—"Causes and Treatment of Hay Fever and Asthma," Dr. Samuel H. Hurwitz.

Friday evening, January 28, 1927—"The Role of Heredity in Disease," Prof. C. H. Danforth.

Friday evening, February 11, 1927—"The Relation of Dental Infection to Disease," Dr. John A. Marshall.

Friday evening, February 25, 1927—"The Psychology of Disease Symptoms," Prof. W. R. Miles.

Friday evening, March 11, 1927—"What About Irregular Teeth?" Dr. Fred Wolfsohn.

Friday evening, March 25, 1927—"The Influence of Good Postural Conditions on Health," Dr. Harry L. Langnecker.

The California Federation of Women's Clubs has been working throughout the state to cause every county which supports a county hospital to have therein:

1. (a) Children's wards; (b) children's contagious wards, where children may be properly cared for, where physicians may be sure of sterile surroundings and of expert nursing in the care of their little patients, where a moderate fee (not over \$2 per day) will be charged, the remainder of the upkeep to be met by the county by appropriations from county funds.

2. Maternity wards, where women may have their babies under aseptic conditions and under expert nursing; where the dangers of puerperal fever may be lessened, where physicians may be able to attend these patients in sterile quarters, with all the necessary appliances at hand in case of danger. The death rate in childbirth is very high, next to the tuberculosis rate. A moderate fee (not more than \$4 per day) is to be charged, the remainder to be made up by county funds.

In quiet maternity wards, away from home cares, a mother can rest for two weeks, returning home fully recovered, and ready to resume the care of older children and household duties, besides laying the foundation for future health.

3. There will be a teaching center in every county. That expert nurses and physicians be in charge, to teach and educate children and mothers in hygiene, and the simple laws of cleanliness, sunshine, and health. That these teaching centers in hospitals hold these classes at least twice a week, and more if their funds permit.

Alumni of the Medical Officers Training Camps at Camp Greenleaf and Fort Riley held a delightful reunion and banquet at the City Club, Los Angeles, on Armistice night.

The celebration was quite informal in character and was characterized by an abundance of good fellowship. Vivid narration of thrilling experiences on land and sea

by old chums and comrades in arms made an impression that will not soon be forgotten.

During our term of service at Greenleaf and Fort Riley as "buck privates" (and poor ones at that) many of us longed for the day to come when the emergency would be over and as free-born American citizens we could say in powerful and picturesque language just what we thought of some of our instructors.

This reunion gave us that opportunity, and the fearless criticism of men and measures proved a source of unalloyed joy and hilarity. A fine and much patronized hotel in Chattanooga whose early fortune was alleged to have been linked in some way with the Wine of Cardui was also a target of good-natured joshing.

A more sober and serious note was sounded after the bubbling effervescence evoked by the mingling of many friends whom we had not seen or heard from since leaving the training camp had subsided.

It was unanimously conceded that, in spite of abundant trials and tribulations incident to camp life, our brief period of service with Uncle Sam's Army had been a distinct benefit and blessing.

The noble spirit of self-sacrifice and service universally displayed by the medical profession during the war is a happy reminiscence that will never die.

A resolution to send cordial greetings to Colonel E. L. Munson was carried unanimously and with hearty acclamation. For some time Colonel Munson was the commanding officer at Camp Greenleaf, and for a long period was in charge of many thousand medical officers.

All present united in the opinion that the celebration in every sense had been such a striking success that it ought to be made an annual event, and held on the night before Armistice Day.

Dr. John C. Copeland, 301 Story Building, 610 South Broadway, Los Angeles, California, Captain Medical Reserve Corps, was made permanent secretary, and he would be glad to have the names and addresses of all former Greenleaf and Fort Riley men who have not been enrolled.

**Saint Joseph's Hospital Staff Hears Doctor Rixford on European Clinics**—Emmet Rixford spoke at Saint Joseph's Hospital of San Francisco December 8 on "Some European Clinics" and showed illuminated views of his subject. The trip was through the principal surgical centers of Italy, Germany, France, Switzerland, and other countries of the Old World and interesting notes of the places and personages seen were given. The speaker stressed the methods of doing partial gastrectomy, which were demonstrated by clever drawings, paper patterns and the use of Shoemaker's and other new instruments secured on this survey made by the American Society of Clinical Surgery.

The following is the program of January 12: "Artificial (Prosthetic) Nose," Roy Parkinson; "Women's Role in Medical Sciences," Adeline Cerighino Williams; "Hospital Observations in Eastern Travels," W. T. Cummins; and "Absent Left Kidney, Obliterated Right Renal Pelvis and Anuria," A. S. Musante.

**Saint Luke's Hospital**—The regular monthly meeting of Saint Luke's Hospital Clinical Club was held Thursday, December 2, 1926, with Arthur C. Gibson presenting the subject of the day, "Acute Otitis Media."

Outstanding points in his discussion were: The diagnosis of otitis media is not always simple, particularly in children, as the drum may have lost its redness and become gray and the bulging may have nearly disappeared before examination is made. The short process and the dirty color with the continued symptomatology which in most cases is (1) pain; (2) increased temperature; (3) general malaise, which may even go as far as delirium, particularly in children, and be confounded with an early meningitis; and (4) frequently nausea and vomiting are of great value in this diagnosis.

Physical findings depend upon the length of time from onset at which they are seen, the drum early showing a redness, later changing to a more congested, darker color, signifying pus behind. In another twenty-four to forty-eight hours the pus is generally liberated if the drum does

not rupture or does not open into the mastoid through the mastoid antrum. The prognosis of the cases that rupture is worse than the prognosis of the case that is opened early, because the pressure has been sufficient to cause a necrosis of the drum and has undoubtedly forced infection into the mastoid antrum from where it spreads to the mastoid. Doctor Gibson's own experience has been that by opening the mastoid early, say in seven to ten days from onset of acute otitis media, the best results are obtained; also he is convinced that there is some therapeutic value in x-raying early otitis media, for unquestionably they do seem to improve.

In the matter of treatment his experience has shown him that in cases where paracentesis is done early the least number of mastoids develop. He has never seen any ill effects from opening a drum (careful paracenteses being presupposed), and he thinks it conservative to err on the side of frequent paracenteses rather than to take a chance that the ear will quiet.

Numerous solutions have been used, but the ideal treatment is gentle treatment with dry wipes, the use of the wipe depending, of course, upon the intelligence of the patient's family. The dry wipe should be used every hour to prevent a large amount of pus remaining in the canal. Next to the dry wipe, irrigation with normal saline with a dram of soda bicarbonate to the pint, at body temperature, is good. It has the effect of dissolving the pus and getting rid of the material in the canal. Also ice, forced fluids, and general catharsis are parts of the ideal treatment.

As to complications, mastoiditis is the principal one and should be watched for carefully.

**Mount Zion Hospital Staff Conferences—Subjects:** erythema nodosum, myasthenia gravis, and drainage in peritonitis.

**Erythema nodosum.** Discussion opened by Joseph Sampson: The interesting part of this case is the fact that the child had a definite focus of infection, it became generally toxic and developed the condition of erythema nodosum. It is an infrequent type of case, and if not seen at the very height of the disease cannot be recognized. These lesions usually occur in female children, sometimes with rheumatic symptoms. This patient had fever, followed by semifluctuating, inflammatory processes appearing on the right leg. The diagnosis of erythema nodosum was made. However, it was felt that this might be cellulitis, so an incision was made.

F. I. Harris: This is certainly an interesting patient, from the point of view of definite diagnosis. The incision seemed to be justifiable. A nodule so definite in outline would give one the impression of cellulitis, as there were no other symmetrical areas on any other part of the body. Just from the rise in temperature, one would not believe it was entirely a blood stream infection which was localizing in the leg.

Fred Firestone: There are some instances on record of healthy patients having had erythema nodosum. Rheumatism is prevalent in the fall, erythema nodosum in the spring. Another interesting fact is brought out by Stock of the Mayo Clinic that tuberculosis is often definitely related to erythema nodosum.

**Myasthenia gravis.** Discussion opened by M. H. Hirschfeld: Myasthenia gravis was not taken as a clinical entity, but rather as a rare observation prior to the time of Erb in 1878. He gives the first clear picture of the disease in the reaction of the muscles and nerves. But it was not until ten years later that it was really brought out definitely by Oppenheim, following a case of exitus. More knowledge of this disease developed in the two or three decades that followed, and some new cases were reported. The majority of cases progress until there is a weakness of the respiratory muscles sometimes as long after as ten to fifteen years. There is no sex predominance known. One of the first things to be considered is to rule out the existence of syphilis. One of the interesting things in this disease is the peculiar reaction to electric currents caused by the muscular degeneration, giving evidence of fatigability of the muscles. After repeated stimulations the reactions gradually disappear,

unlike those in normal muscles. Symptoms are more marked later in the day rather than in the morning. Myasthenia gravis is indeed one condition that awakens medical curiosity, as it is often times incorrectly diagnosed as hysteria. There are two schools which can be followed: (1) Followers of Babinski—diagnose hysteria when symptoms can be only voluntarily produced. (2) School of Hirsch—diagnosis only when there are marked physical or circulatory changes present.

An interesting case was shown at the meeting and the electrical phenomena demonstrated.

**Drainage in peritonitis.** F. I. Harris: The trouble is we drain too much. In cases of peritonitis in the great majority of patients we can get by without draining and at the same time improve the patient's chances of getting well. It is a fact that if drains are inserted they are completely walled off within thirty-six to forty-eight hours. So that drainage of the whole peritoneal cavity is quite impossible. If one does insert drains it should be to drain a small region. Drainage has been some aid in combating toxemia. My policy has been in cases of acute appendicitis is to get in and get out as quickly as possible. If there is a good deal of necrotic material present, I may insert a drain in the hopes of draining off some of this material. Oftentimes where the tube has been inserted the area surrounding it becomes infected, necessitating the reopening of the wound.

Mast Wolfson: Drainage is really meant to direct off any excess fluid. A drain really causes a reversal of the lymph flow. There are several ways of removing the drains. Some remove the drain completely on the fourth day postoperative; while others believe in twisting the tube a little each day after the fourth day so that it is out by the seventh day postoperative. Care must be used in relieving any sealed off abscess at the bottom of the tract. In instances where tubercular peritonitis is known to be present drains should never be used, but rather the abdomen should be sewed up tightly to prevent a sinus from developing.

A. Epstein: Less drainage is being used in cases of prostatectomy. The general treatment that does exist is to pack the wound with gauze and occasionally one tube is inserted which is removed in twenty-four hours.

J. B. Levison stated that drainage of the peritoneal cavity is not possible in peritonitis which can be divided in two groups: (1) acute general peritonitis with plastic exudate of streptococcal origin; (2) localized acute peritonitis, due to the colon bacillus. In this type there is turbid liquid exudate, rich in antibodies. In the first group drainage is not possible as the drain is immediately surrounded with plastic exudate. This has been constantly shown at autopsy. In the second group the exudate is liquid and rich in protective substances, and drainage removes these bodies and should not be employed. Drainage is indicated only where the stump of the appendix is gangrenous and cannot be entirely removed or in abscess formation, but here drainage does not take place but the area is walled off so that a tract is formed aiding the evacuation of infected substances.

**Medical Reserve Corps, Ninth Corps Area—**The headquarters of the Ninth Corps Area has called upon all members of the National Guard in its component states to actively assist in the enrollment of additional officers for the Medical Reserve Corps.

It is unusual for one of the components of the national army to be called upon to aid in the organization of another component, but the conditions in this case are themselves unusual.

The entire hospitalization service in national emergency of all the three components of the Army of the United States—included in the Regular Army, the National Guard, and the Organized Reserves—has been turned over to the medical profession of the nation, that is, the Medical Reserve Corps.

The medical department of the National Guard is a divisional service only, looking after troops in the field in respect to the preservation of health, and to the temporary handling of casualties of battle and brief temporary emergency. Any member of the National Guard who requires prolonged treatment or professional care



in a hospital must be transferred to an appropriate relief unit functioned by the Medical Reserve Corps in order to secure it.

The National Guard may be able to function independently without the active co-ordinating aid of various other components of the army of the United States; but without the direct co-operation of the Medical Reserve Corps it cannot in time of war exist.

There are many physicians in civil life who are not in position to assume the obligations connected with the National Guard, but who would be glad to enroll themselves in advance to meet any national emergency. And there are also many who are interested only in such professional work as is found in hospitals. It is these two classes of physicians in which the National Guard will especially interest themselves in respect to their enrollments in the Medical Reserve Corps.

Doubtless many physicians who are in family attendance on members of the National Guard will be asked by them to enroll in the Medical Reserve Corps, with a view to having such professional relations continued in time of war.

It is hoped that those who are so approached will be receptive to the request that they accept a commission in the Medical Reserve Corps, with a view to assignment to its hospital units.

### CALIFORNIA BOARD OF MEDICAL EXAMINERS

By C. B. PINKHAM, M. D., Secretary

A most interesting and instructive resumé of legislation throughout the United States relating to annual registration of physicians and surgeons appeared in the Bulletin of the American Medical Association of November, 1926, having been compiled by W. C. Woodward, M. D., executive secretary of the Bureau of Legal Medicine and Legislation, A. M. A.

A recent circular announces "a thorough course of instruction is given every month" at the College of Electronic Medicine, 1547 Jackson Street, San Francisco. The fee for instruction is \$100, and "the cost of the apparatus" totals \$722.50. "A certificate of attendance will be issued to those who successfully pass the examination at the close of the course."

According to the San Francisco Examiner of November 21, 1926, the supervisors were requested to "enact ordinances regulating the personnel of beauty shops and providing rules under which such enterprises may be operated." Secretary E. P. Miller of the "Beauty Operators' Association" is said to have furnished a proposed draft of an ordinance laying down a rigid sanitary code for observance and prescribing steps "to protect the health and facial attractions of patrons of beauty shops, cosmeticians, and cosmetologists."

Graduates of the "College of Saglftology" are threatened with annihilation when the diplomas of the beauty culture and cosmetician colleges charge the coming legislature. What with the Dennis College of Beauty Culture and its gamut of conferred degrees—ranging from doctor of beauty culture to doctor of beauty science—its purposes said to permit infringement on the barbers' prerogatives; the Jean Academy of Beauty Culture, the Leader College of Beauty Culture, the Moler Beauty College, and the National School of Cosmeticians affiliated with the Marinello system? Rumor prepares the way for a hectic legislative campaign backed by a large fund devoted to a proposed bill which, rumor relates, has for its purpose the licensing of so-called beauty specialists, cosmeticians, etc., permitting them to do about everything, and particularly permitting the use of poisonous drugs in so-called face-peel preparations despite the fact that many deaths are reported in California said to have resulted from local application of so-called "face peels."

James A. Biglow, a colored night watchman, recently reported as having operated an office in Los Angeles which, according to his sign, was a "suboffice of heaven," pleaded guilty on November 30, 1926, to a charge of violation of the Medical Practice Act and was sentenced

to serve 180 days in the city jail, the sentence being suspended for a period of two years. According to his sign, he guaranteed to cure, among other ailments, "stone in liver."

Frederick J. Cook, naturopath, whose name appears in the classified list of the Los Angeles telephone directory as an M. D., is reported to have recently admitted using the suffix "M. D." in his application to the Prohibition Department. He claims a diploma dated in 1916 from the notorious Pacific Medical College whose credentials were featured prominently in the diploma mill exposé.

Homer B. Skinner, D. C., of Oroville, was recently appointed to a vacancy on the State Board of Chiropractic Examiners, according to the San Francisco "Examiner" of November 10, 1926.

The Los Angeles "Examiner" of November 21, 1926, relates the election of officers of the State Board of Chiropractic Examiners as follows: Clement J. Redmond, Los Angeles, president; Vernon Malcolm, San Francisco, vice-president; and James Compton, Sacramento, secretary.

According to the San Francisco "Call" of December 7, 1926, Attorney-General Webb has recently ruled "that if an eastern firm is selling ready-to-wear glasses in California, as charged by the State Board of Optometry, it is violating the law"; further commenting that "if you wear glasses that do not fit, you not only are not helping, but you injure your eyesight more than if you had no glasses at all."

John Dare, drugless practitioner of San Francisco, was arrested on November 13, 1926, on a charge of annoying small girls on a street car, according to the San Francisco "Examiner" of November 14, 1926.

Madame Jean de Desley, a beauty expert, was recently found not guilty of violation of the Medical Practice Act after jury trial in Los Angeles. "The defendant explained her method of operation as 'deep face peel,' and that no surgical or medicinal steps are included."—Los Angeles "Examiner," November 23, 1926.

Our special agent reports: "The testimony of three of our witnesses was, in substance, that they went to defendant for a face peel and that they were not sick or afflicted at the time, but as the treatment proceeded the face became sore and inflamed and eyes swelled almost shut, pus running from the face when the adhesive plaster was removed, and that the defendant then treated the sore and inflamed condition of their faces with powders, salves, unguentine, etc., and dropped some kind of liquid into their eyes which were in some cases swollen almost shut."

This method of treatment is somewhat parallel to the reported experience of Sallie Lytton, deceased, who, according to our records, applied a face bleach followed by cucumber lotion said to have been manufactured by Fannie Briggs Carr, Inc., and shortly after is alleged to have suffered intense pain in the face, neck, and other parts to which the application had been made, her neck and face from the breast to her hair being frightfully burned; and as a result she was unable to open her eyes and could only be given a little liquid food through a tube. Later Miss Lytton died.

The Bureau of Pure Food, State Board of Health, reported information from the general manager of the Fannie Briggs Carr firm discloses a large percentage of corrosive sublimate in the preparation. We are informed by the State Board of Pharmacy that "it was not alone the use of the bichloride face bleach that helped to cause the trouble, but also the use of the strong carbolic acid solution," it being further related that although the paper carton containing the product does not show it to be poisonous, yet the label on the bottle in said container is alleged to give an antidote. T. Floyd Brown, M. D., in an article printed in "California, Outdoors and In," September, 1926, relates: "It would seem that only legislative action will stop this death 'skin 'em alive until dead' practice and protect a foolish public."

According to the Visalia "Delta" of November 9, 1926, L. S. White and Helen Ford of Lindsay, Dorothy Eaton of Visalia, and Mrs. Florence Gessler of Porterville, all

said to be operating I-on-a-co offices, were charged with violation of the Medical Practice Act.

George E. Ebright, San Francisco physician and surgeon, was reappointed to the State Board of Health yesterday by Governor Richardson, according to dispatches from Sacramento. Doctor Ebright, who has had similar commissions from three governors, is at present president of the Health Board. He has practiced for many years in San Francisco and is assistant professor of clinical medicine at the University of California. During his long membership on the State Board of Health Doctor Ebright has been responsible for great advances in the conquest of epidemics.—San Francisco "Examiner," November 17, 1926.

According to the Glendale "News" of November 5, 1926, J. K. Gilkerson, D. C., tendered his resignation as a member of the Chiropractic Board, giving as his reason "that the duties of the board, the preparation and correcting of the examination papers of candidates for licenses to practice in this state encroach upon the time he feels should be devoted to his practice."

Davis Grisso, chief physician of the Bohanon Cancer Institute, Berkeley, was arrested yesterday on the complaint of L. S. Cooper, charged with practicing medicine without a license. . . . (Oakland "Times," November 24, 1926). Grisso's reciprocity license to practice in the state of California was revoked November 18, 1923, and we are informed by our Chief Counsel Bianchi that Grisso has no right to practice in the state of California.

The State Supreme Court today denied the petition of T. Wah Hing, local Chinese herb doctor, for a hearing on the recent decision of the Third District Court of Appeal, which upheld Hing's conviction in the Sacramento County Superior Court on a charge of violating the Medical Practice Act.—Sacramento "Bee," November 10, 1926.

On November 15, 1925, T. Wah Hing was found guilty of violation of the Medical Practice Act and sentenced to ninety days and to pay a fine of \$600. The legal report of October, 1926 (page 3675), shows the entry "held by federal grand jury on same charge."

The activities of those promoting Wilshire's I-on-a-co have given rise to many complaints from various sections of the state that the Medical Practice Act is being violated. It is reported that "this great cure-all (I-on-a-co) which is being advertised and sold so extensively is nothing but a coil of insulated copper wire with a cover and an electrical connection by which it may be attached to the electric light plug or socket. An alternating current of electricity being passed through the wire makes a magnetic field in which the patient is placed by putting the coil around him." The apparatus is said to be simply a solenoid, a principle well known in electrotherapy and described in books on that subject for many years. The actual cost of manufacture is alleged to be less than \$12, and the apparatus sells for \$65. The profits easily account for the extensive advertising. Rival appliances are being advertised under the name of "Magnetone," "Restoro," and other euphonious titles.

G. D. Johnson, alleged Stockton druggist, mentioned in prior "News Items," was found guilty of violation of the Medical Practice Act on November 18, 1926, and sentenced to pay a fine of \$500 and serve five months in the county jail, which sentence was appealed according to the report of our special agent.

Joseph S. Johnson, recently reported as violating the Medical Practice Act at Fort Bragg, California, and alleged to be holding himself out as a chiropractor, disappeared before our investigator arrived, it being reported that he had been recently charged with vagrancy in connection with his alleged treatment of young girls in connection with his practice, "it being understood that a charge of violation of the Medical Practice Act would not be pressed provided Johnson left Fort Bragg."

Harris Klein, Fulton Street physician, will have to go to the police court to explain away two charges lodged

against him yesterday morning. They are: failing to stop to render assistance after an accident, and driving an auto while drunk (San Francisco "Examiner," November 29, 1926). Doctor Klein denies the charges.

F. K. Lord, Modesto physician, must spend a sentence in the Stanislaus County Jail for prescribing an excessive amount of morphin to a drug addict, the California Supreme Court ruled yesterday. In denying Doctor Lord's petition for a writ of habeas corpus the court upheld the decision of the Justices' Court in Modesto and the Superior Court of Stanislaus County. . . . (San Francisco "Examiner," December 12, 1926). Doctor Lord's license to practice in the state of California was suspended for one year on March 9, 1926. Doctor Lord appealed to the courts, and the case is still pending for decision.

Carl McPheeters, M. D., Fresno physician, was recently reported indicted by a federal grand jury on a charge of sending obscene matter through the mails. According to the Fresno "Bee," November 17, 1926, his trial was scheduled to open November 18, 1926, before United States Judge Paul J. McCormick.

Sakaji Mizimo, Japanese barber of Aroma, Kings County, is reported to display on the walls of his office a typewritten diploma headed "Certificate of Award, Professor H. R. Seto, Massage Treatment College." It is further reported that Mizimo displays a sign "Japanese-Swedish Massage (whatever that combination may mean), Chiropractic and Thermic Treatments."

It is reported that a nurse by the name of Agnes Martin, formerly employed in a state hospital at Rockville, Indiana, and now residing in Detroit, Michigan, is the individual who, using the name of Alma Stevens Pennington, M. D., was recently alleged to have attempted to secure a Michigan license by impersonating Doctor Pennington, submitting an application based upon Doctor Pennington's credentials.

Robert W. Renwick, M. D., whose license was revoked by the Board of Medical Examiners, March 11, 1926, is reported as practicing chiropody in a beauty shop in Los Angeles. Our special agent reports that "although the license of Robert W. Renwick was revoked it would be useless to try to get any definite action against him in the local courts for practicing without a license while his case is pending on appeal. . . ." This is another instance where after revocation of a license the individual continues to practice, protected by a pending court action which cannot be expeditiously disposed of owing to the crowded condition of the court calendars. Our attorney reports that possibly two years may elapse before final disposition.

According to the San Francisco "Examiner" of November 13, 1926, "Dr. William S. Rogers, San Francisco physician," charged with speeding at Burlingame, was ordered to appear before Judge Joseph Gaffey following the presentation of an affidavit "stating that he was on an emergency call when stopped by a motorcycle officer." The records of the Board of Medical Examiners do not show anyone by the name of William S. Rogers as the holder of any form of certificate entitling him to practice in this state.

B. A. Seelau, charged by an agent of the Chiropractic Board with practicing without a license, won a dismissal before Judge Charles D. Wallace of Long Beach on the ground of insufficient evidence, according to the Long Beach "Press-Telegram" of November 3, 1926.

According to recent reports, Arthur Silva, formerly of Oakland, was arraigned before Justice J. M. McClellan of Hanford on November 5, 1926, on a charge of violation of the Medical Practice Act. "A quantity of herbs, electrical appliances, and elixirs, it is stated, were seized. Complaint had recently been made to the district attorney's office by owners of radio receiving sets in that part of town that Silva's static machine spoiled reception on their sets." Radio owners in other sections of the state have filed similar complaints regarding alleged violators of the law.

Arvid C. Silverberg, Seattle physician, released from

Alcatraz Island, where he had been serving time since January 9 on his conviction as a draft evader, faces deportation to Finland, according to the Oakland "Tribune" of November 9, 1926.

Owing to the numerous complaints regarding alleged tuberculosis cures and the pathetic circumstances related by those who have come in contact with the unlicensed promoters of these alleged cures, legislative enactment which will curb these unlicensed promoters seems timely. Prosecution under the Medical Practice Act has not been effective in stopping this ghoulish practice.

Announcement that Dr. D. C. Williams, inspector of state institutions, had resigned was made yesterday by E. G. Twogood, acting director of the State Department of Institutions. Doctor Williams, whose home is in Le Grand, Merced County, was appointed to the post in January of this year. He was a former member of the Assembly.—Sacramento "Bee," December 9, 1926.

Charles Henry Wood, D.C., president of the Los Angeles College of Chiropractic, whose license was recently revoked by the Board of Chiropractic Examiners on the charge of alleged falsifications of his credentials, threatens to test the legality of the Chiropractic Initiative Act by his application to the Supreme Court for a writ of probation, asking that the lower court be prohibited from conducting a hearing, Wood contending that the law does not give the Chiropractic Board power to act in a judicial capacity.

## READERS' FORUM

San Jose, Calif., December 15, 1926.

*Dear Editor:* An official expression from you as editor of the magazine, CALIFORNIA AND WESTERN MEDICINE, in answer to the following questions will be greatly appreciated:

1. Is the administration of any anesthetic by graduate or student nurses, under the direction of a graduate and licensed physician or surgeon who may be operating at the same time, ethically allowable by the standards of the medical profession?
2. According to the medical authorities and the laws of the state of California, does the administration of an anesthetic by a graduate student nurse under the same conditions legally obligate the hospital employing the nurse in case of death of the patient in anesthesia?
3. Under conditions as outlined in question one, to what extent do your former answers apply to the administration of small quantities of nitrous oxide during childbirth?

SAN JOSE HOSPITAL.  
R. D. Brisbane, Manager.

*Answer*—All of these questions have been repeatedly discussed editorially and otherwise in CALIFORNIA AND WESTERN MEDICINE; still we continue to receive many inquiries.

Some years ago the House of Delegates of the California Medical Association unanimously passed a resolution declaring the giving of an anesthetic by any but a licensed physician, surgeon, or dentist as unethical. This, on the ground that anesthesiology is the practice of medicine quite as much as is surgery.

The Attorney-General of California and the attorney for the California Board of Medical Examiners have both ruled that the giving of an anesthetic is the practice of medicine or dentistry and that such action by one not licensed to so practice is illegal. The matter has not to my knowledge been tested in the California courts, but it has been elsewhere, and in every instance with which I am familiar, this ruling has been upheld. Both hospitals and surgeons have been held legally liable for accidents to patients anesthetized by those not licensed to practice medicine, surgery or dentistry, and it may be con-

fidently predicted that California courts will similarly hold when the question gets before them.

The answer to the last question is that neither the character nor amount of anesthetic administered is likely to have anything to do with legal or ethical responsibility.

San Bernardino, Calif., November, 17, 1926.

*Dear Editor:* Will you kindly publish the following and make your comments attached to it, and answer the queries below:

Case 1. A man 72 years of age had a one-fourth inch impetiginous ulcer one inch below the left eye, of a few months' duration. Acting upon his own initiative he put a so-called cancer cure on it, eating a large hole in his cheek and resulting in enucleation of the eye. Perfect healing resulted. 1925.

Case 2. A widow about 40 years old in September, 1926, had a similar three-fourth inch ulcer about one and one-half inches below the center of the right clavicle of two weeks' duration, and also a one-fourth inch ulcer on the back of the left hand and one of the same size about one inch below the left eye. A member of her family applied a so-called cancer cure to each of these ulcers, using them repeatedly until the subclavicular ulcer was about six inches in diameter, and the two others about two inches in diameter. On November 2, I was called to see the woman and found the above. She was in a very toxic condition, suffering greatly from pain, and evidently could not have survived much longer. I had her removed at once to the County Hospital, and put her in competent hands. At the hospital they cleaned the necrosed tissue out and gave her a chance for her life. The family, however, took her away from the hospital on the fourth. I was not called afterward, but took occasion to see that a doctor was sent to see her. I saw her in the beginning and also after the first application of the cancer cure, and told them repeatedly that it was not cancer and to put on no more of the cancer cure.

Queries—Is there any authentic evidence that a cancer was ever cured by a caustic paste?

Is a man who is not authorized to practice medicine under the laws of the state any right to use such a dangerous treatment even to a member of his family?

Should not the public be informed as to the merits of this so-called cancer treatment?

HENRY O. BEESON.

Answer prepared by Dr. A. R. Kilgore: There seems to be little doubt that some cancers of the skin have been cured by caustic pastes. The cure of cancer depends upon the removal or the destruction of every cancer cell, and in the case of growths which have not metastasized (e. g., rodent ulcers) if a sufficient amount of a sufficiently strong caustic be used to kill all the cells such growth will be cured.

There are perfectly good reasons for not using pastes, however.

1. Just such results as described are sometimes obtained. The action of a caustic, once applied, is not well under control.

2. Application of a caustic to a growth which has already metastasized to the regional lymph glands will certainly do the metastases no good.

3. If insufficient caustic be applied to kill every cell, the live cells left may be stimulated to much more active growth and metastasis.

As far as we know, it is not possible to punish legally an individual who purchases a cancer paste and uses it on one of his family without pay, just as it seems impossible to bring action against a mother who gives her child a dose of castor oil in the early stages of acute appendicitis.

The American Society for the Control of Cancer is making every effort to educate the public about cancer and the importance of securing intelligent treatment. These great educational movements take time and money, but eventual success in greater or less degree seems assured. The more help every physician can give in talking with his patients the quicker an adequate public knowledge of cancer will come.